

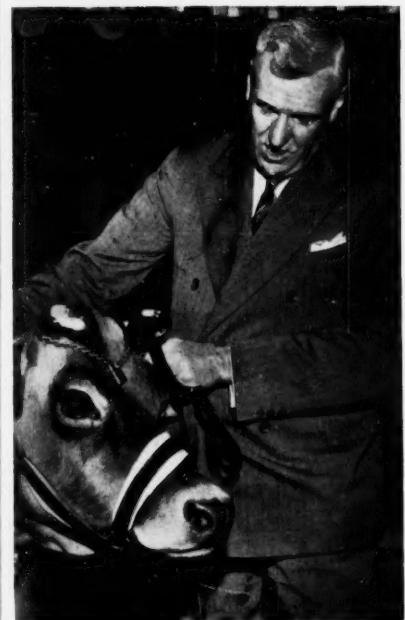
Chemical Week

September 20, 1952

Price 35 cents



Is your Western division a step-child? Here's the key to sound East-West liaison p. 16



◀ Engineers: What they are, how they serve society is theme of engineering centennial . . . p. 37

◀ Borden's Leicester: basic chemicals for sale as Elsie goes 'really chemical' p. 47

Don't expect any easing in pyridine; reason: supply is near peak, but not demand p. 65

Researchers find antibiotics stimulate plant growth; it could mean big new outlet p. 69

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Fastest growing phosphate producer, Westvaco has expanded its basic elemental Phosphorus production at Pocatello, Idaho, year by year.

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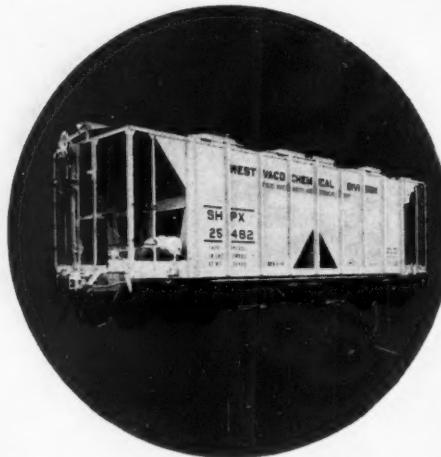
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Chemical Week

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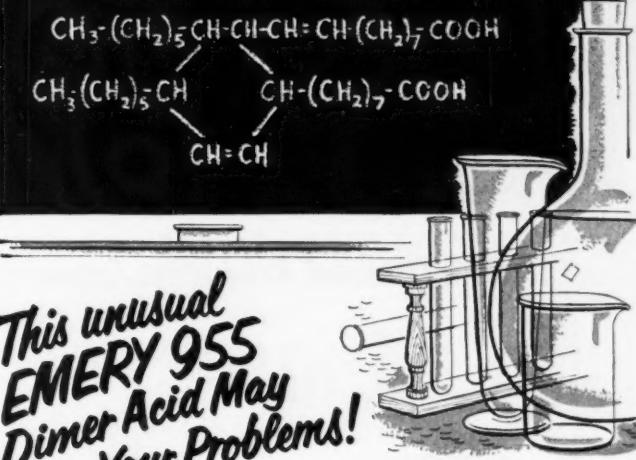


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Here is the end to your search for just the *right* chemical intermediate for scores of unusual applications. Emery Dimer Acid has demonstrated its versatility in the widely different applications listed here. It may well be just the answer to one or more of your difficult problems . . . find out more about Emery 955 Dimer Acid today!

Alkyd Resins: As a replacement for either the dibasic acid, oil, or fatty acid for better through-drying, less wrinkling, and greater flexibility.

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The metal salts of partial esters of Dimer Acid are unique oil-soluble soaps.

Esters: The methyl, propyl and butyl esters of Dimer Acid possess low pour points, high flash and fire points, high viscosity indices, and excellent oxidation stability.

Some long chain polyesters and polymeric esters of Dimer Acid are "rubber-like" in nature. Others produce high molecular weight, low-melting resins.

Sulfurized esters of Dimer Acid are interesting as lubricant additives in that they are effective corrosion inhibitors, and antioxidants, and do not form undesirable resinous by-products and sludge.

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Your 955 Dimer Acid sounds very interesting.
Please rush my copy of your Dimer Acid booklet.

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Title.....

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OPINION . . .

Underpaid Technologists?

To THE EDITOR: I have read your news article "Lower Reserves in Manpower Pool" (July 12) . . . with great concern. To me it is quite evident why the number of chemistry students continues to decline.

It requires a certain amount of ability (intelligence above average) to be a chemist or an engineer. If a man has this ability why should he waste it in a chemical laboratory earning meager wages when he can earn much more in the field of medicine or business?

Should the Manufacturing Chemists' Association really want to sell students on careers in the field of chemistry, why haven't they tried raising the wages of those already in the field and perhaps they in turn would advise their sons and other students to become chemists and engineers?

I am a Ph. D. with twenty years experience . . .

ANONYMOUS

CW does not customarily concern itself with, or print letters from, readers who do not deign to identify themselves. However, this salary question is one which may dictate anonymity and is raised so frequently by our correspondents that we feel it is time to set out the facts.

The latest salary figures available reveal these average peak earnings and at the ages cited:

Chemists: \$7,900 at age 55

Chemical engineers: \$13,000 at age 58

Physicians: \$12,500 at age 47

Dentists: \$8,000 at age 42

Lawyers: \$7,200 at age 53

These statistics are worthy studying before leaping to the conclusion that chemists and engineers are underpaid and exploited men bereft of recognition and opportunity.—ED.

"Baby & Bath Water"

To THE EDITOR: Your editorial "Nature's Magic Ingredient" (Aug. 16) addressed to the timely and important subject of the effectiveness of chlorophyll in its various product forms, seems to "throw the baby out with the bath water." Those of us who have devoted years to . . . sound research on chlorophyll and derivatives fully endorse and applaud the intent of your editorial in calling attention to the promotional misuses of chlorophyll . . .

However, to an uninitiated reader it does not convey an adequate impression of the volume of authoritative published research supporting the use of chlorophyll in certain thera-

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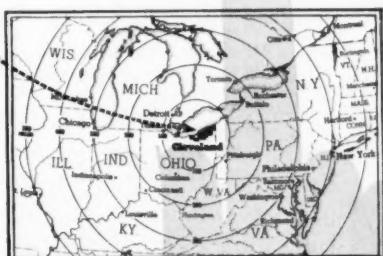
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BEFORE YOU CHOOSE ANY PLANT LOCATION be sure to read this informative new illustrated brochure "*Growth Industries Need Northeast Ohio*". Gives you up-to-the-minute facts on growth opportunities, research, new materials, market and transportation developments . . . plus a list of over 100 companies which have invested \$1 million or more each in recent expansion here.

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There's an idea here for you!



How to "clean up" your packaging problems

This eye-catching 3-piece unit, consisting of two 50-lb. boxes of detergent packed in a master shipping box, sells the product all the way from the factory filling machine to the home washing machine. Individual boxes assure protection from moisture. A handy die-cut top makes dispensing easy. The shipping box design, following the design of the shelf packages, is printed in dark blue and yellow on a light blue box.

Your chemical product, too, deserves the promotion and protection benefits of H & D corrugated boxes. To help you clean up your packaging problems, write for the 14-volume "Little Packaging Library." Hinde & Dauch, 5226 Decatur Street, Sandusky, Ohio.

H & D

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Authority on Packaging



Akron, Baltimore, Battle Creek, Mich., Bloomington, Ill., Buffalo, Chicago, Cincinnati, Cleveland, Columbus, Denver, Detroit, Fairfield, Conn., Findlay, Ohio, Gloucester City, N. J., Greensboro, N. C., Hoboken, Indianapolis, Jamestown, N. Y., Kansas City, Lenoir, N. C., Minneapolis, Omaha, Plymouth, Ind., Reading, Pa., Richmond, Va., Roanoke, Va., Rochester, Sandusky, Ohio, Shrewsbury, Mass., St. Louis, Toledo, Watertown, Mass.

OPINION

peutic and deodorizing preparations.

You mentioned, for example, that chlorophyll appears to have "some worth in wound-healing salves." This mild admission hardly reflects the opinion of numerous laboratory and clinical investigators . . . who have reported on the healing properties of water-soluble chlorophyll derivatives . . . Since the original report of Gruskin (1940) more than forty articles have been published in professional journals . . . covering our Chloresium preparations . . . The American Medical Association has accepted Chloresium ointment and solution . . . Standardization of the product by the Armed Forces Medical Procurement Agency for use in military hospitals is another concrete example of its recognized value.

With reference to chlorophyll dentifrices, you correctly state while chlorophyll has exhibited anti-bacterial properties against oral bacilli often associated with dental caries, its effectiveness in reducing dental caries has not yet been conclusively proved . . .

You further mention, however, that the value of chlorophyll as a mouth deodorant "has not been completely established." One's opinion on this might well depend on how literally he interprets "completely" . . . The number of reports on its specific value as a mouth deodorant is impressive . . .

It seems unfortunate that . . . no mention was made of the most significant value of a chlorophyll dentifrice . . . its beneficial effect on gingival tissue.

You say that "the worth of chlorophyll as a systemic deodorant is decidedly open to question." If, by "systemic" you refer to its use as a general body deodorant . . . there certainly are unanswered questions on the relation of chlorophyll taken internally and, say, perspiration odors, but certainly internally-created odors are reduced or eliminated by chlorophyll.

There is no more clean-cut example of objectionable odor from an internal source than that from which victims of colostomies suffer. Weingarten and Payson . . . and many others . . . have reported on the dramatic relief chlorophyll offers.

We fully agree with your general conclusion that "more research is needed." In our judgment . . . research has already proved the healing and deodorizing effectiveness of water-soluble chlorophyll . . . in adequate concentration . . . in appropriate vehicles.

The further research is needed primarily to determine more precisely how chlorophyll works . . . how it

The light way to ship is in Continental Fibre Drums

Continental Fibre Drums are lighter in weight than any other shipping container of comparable strength. That means they can save you a substantial amount in shipping costs, at today's high freight rates. On shipments to countries where import duties are levied on the gross weight, these savings are even greater.

Although light in weight, Continental Fibre Drums are rugged and durable—will take rough handling. Thus you can give expensive or dangerous products all the shipping protection they need, without paying excess freight charges for heavy containers.

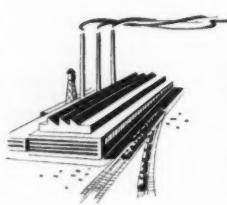
Neat and efficient in appearance, these drums can be attractively printed or spray painted to make an effective "traveling billboard" for your company or product. They come in a complete line of sizes, from 12 gallons to 75. Call the nearest Continental office for complete details.



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FIBRE DRUM DIVISION

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serves your industry
with TOP QUALITY
CHEMICALS!

You can depend upon . . .

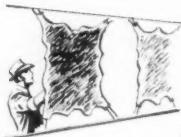
EPSON SALTS

U.S.P.—Used as a medicinal in general and veterinary practices.

Technical—Used in a variety of processes in many industries. The textile, leather, paper and fertilizer industries are only a few that use epsom salts in processing operations.

Special—This form of epsom salts is offered to stock food manufacturers and is designed solely for feeding to livestock.

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Used as a depilatory in the leather industry and as a cleaner, denitrator and dyeing agent in the textile industry. Sodium sulfide is also used in the oil, mining, and synthetic rubber industries.

Dow manufactures over 600 chemicals for industry and agriculture, therefore, you can look to Dow to satisfy your needs. In addition to top quality, you can always be certain of fast, efficient service. For chemicals *you can depend upon*, ORDER FROM DOW TODAY!

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN



OPINION

can be used to best advantage. It goes without saying, of course, that those products, whose chlorophyll content and intended uses bear no relation to published research, could well stand some specific research if they are intended to survive.

None of these comments is meant to negate your very valid point that "chlorophyll is not a wondrous cure-all." We hope that the industry will agree with your view that "we have more to offer the world than mere huckstering." By the same token, you can be of real service to all concerned in this field by more carefully separating the "baby" from the "bath water."

O'NEILL RYAN, JR.
President
Rystan Co. Inc.
Mount Vernon, N.Y.
Reader Ryan (whose company holds basic patents on chlorophyll ointments, licenses most of the dentifrice makers) hardly disagrees or challenges CW's main contentions.

We agree on the worth of wound-healing salves (pioneered by Rystan), said "they do curb odors, are sold as ethical preparations."

Of anti-bacterial properties: "a fair bit of research has been conducted; it is suggestive, not conclusive."

On its deodorant value in dentifrices: "More research is needed. There are, among others, questions as to concentration required, duration of effect if any. The American Dental Association is cautiously negative to non-committal"

By "systemic" deodorant we meant, of course, the "take a green pill and smell sweet" type of product, which, as Reader Ryan suggests, is open to question.

On the over-huckstering, misuse and deceptive promotion of some chlorophyll products, we agree—heartily.—ED.

Rough Rhymers

TO THE EDITOR: I have just received the perfect answer to the problem of the chlorophyll-ingesting but still odorous goat.

I trust that you will give credit to "Re-Buttal" and its author Dr. G. W. Rapp who, in recognition of such authorship, is being made a member

CW welcomes expressions of opinion from readers. The only requirements: that they be pertinent, as brief as possible.

Address all correspondence to: W. A. Jordan, Chemical Week, 330 W. 42nd St., New York 36, N.Y.



This advertisement is one of a series currently appearing in *Wall Street Journal*, *New York Journal of Commerce* and *Fortune*.

The series aims to point out to the investing public and to management that, as the economy grows, so grows the chemical industry. And that as the industry grows, so do its potentialities for profitable investment.

AND VELVET GLOVES

Underlying the development of both might and culture is industrial strength. Sometimes steel must go for tanks, sometimes for theatres; sometimes rayon is needed more for army tires than for rayon velvet.

But whether the mailed fist or the gloved hand is the end result, steel and rayon—like other industrial products—always require chemicals. The chemical industry is basic to all industries and grows with each.

DIAMOND ALKALI COMPANY
CLEVELAND • OHIO

Chemicals you live by



**News about
B. F. Goodrich Chemical raw materials**

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B-Alanine
 $\text{NH}_2\text{CH}_2\text{CH}_2\text{COOH}$
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PURITY—98% MIN.

If you make, or plan to make calcium pantothenate, we can assure you supplies of Good-rite β -Alanine to meet your complete requirements. Its high purity results in optimum yields in the manufacture of calcium pantothenate.

In addition to that usage, β -Alanine is also suggested for other fields where a low molecular weight, water-soluble amino acid may be useful.

For information, prices and prompt delivery, please write Dept. CK-3, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario. Cable address: Goodchemco.

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of the Rough and Ready Rhymers' Club.

RE-BUTTAL

Why reeks the goat
On yonder hill,
Which feeds all day
On chlorophyll?

It wouldn't reek
If it were willin'
To feed, instead,
On chlorophyll!

CARL S. MINER
Director

The Miner Laboratories
Chicago, Ill.

Could be.—ED.

Two Views on Trade

TO THE PUBLISHER: Please cancel my subscription effective at once. I cannot support any publication with views on tariffs as expressed in your [company] editorial in the issue of Aug. 23.

A. L. SATTERTHWAITE
Wilmington, Del.

TO THE PUBLISHER: My congratulations on your foreign trade [company] editorial. . . . I hope you will make a fight of it.

RICHARD CONYNE
Andalusia, Pa.

M E E T I N G S . . .

Drug, Chemical, and Allied Trades Section, New York Board of Trade, Inc., 62nd annual meeting, Pocono Manor Inn, Pocono Manor, Pa., Sept. 25-28.

Tech. Assn. of Pulp and Paper Ind., New England Section, Berkshire Inn, Great Barrington, Mass., Oct. 10-11.

Tech. Assn. of Pulp and Paper Ind., Engineering Conference, Morrison Hotel, Chicago, Ill., Oct. 13-16.

Society of Plastics Engineers, Cleveland-Akron Section and Akron Rubber group, Mayflower Hotel, Akron, O., Oct. 17.

National Safety Council, 40th national exposition, Chicago, Ill., Oct. 20-24.

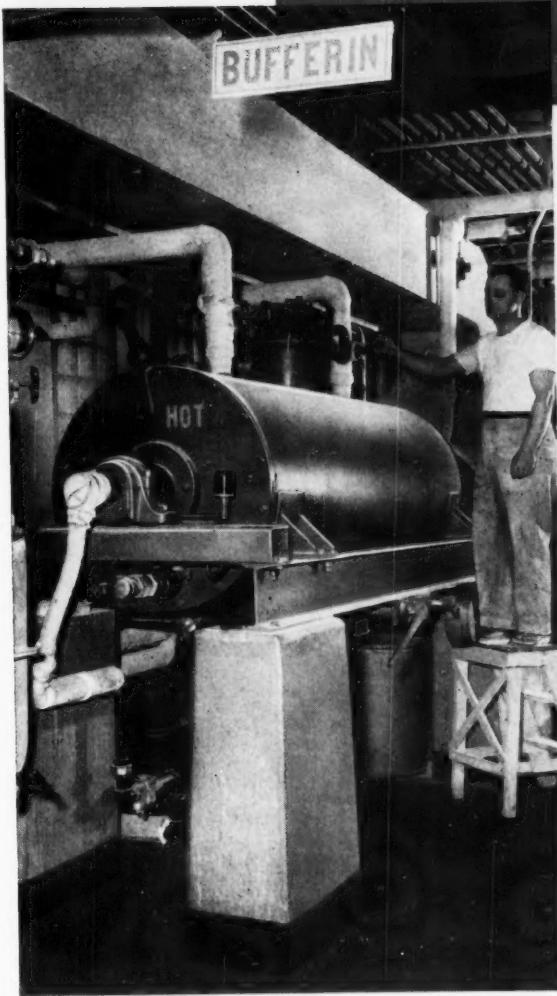
Amer. Oil Chemists' Society, 26th annual fall meeting, Netherlands Plaza Hotel, Chicago, Ill., Oct. 20-22.

Wilmington-Philadelphia Organic Chemists' Club, Biennial Organic Symposium, Hotel duPont, Wilmington, Del., Oct. 23.

Assn. of Consulting Chemists and Chemical Engineers, annual open door dinner meeting, Hotel Belmont Plaza, New York, N.Y., Oct. 28.

Liquefied Petroleum Gas Assn., annual northeastern district meeting, Ambassador Hotel, Atlantic City, N.J., Oct. 30.

Dry in Vacuum... reduce time
and labor by 50%



Stokes Rotary Vacuum Dryer in operation at Bristol-Myers Company, Hillside, N. J.

Elimination of air is essential in the drying of many finely divided oxidizable materials.

Drying in vacuum can often mean the difference between a profit or loss on a product...the difference between a fairly good and an excellent end-product.

Bristol-Myers Company, Hillside, N. J., uses a Stokes Rotary Vacuum Dryer in preparing the granulation for Bufferin tablets. Each particle of the material is exposed to a heated surface under vacuum at low temperature and thoroughly mixed by the dryer's agitator blades to insure uniform moisture elimination from the end-product. Result: a 50% reduction in time and labor as compared to a former process.

Fast, thorough, uniform, and economical drying of products in large batches with a minimum of labor is characteristic of Stokes Rotary Vacuum Dryers. They are designed for drying materials that may be tumbled, such as crystals, heat-sensitive chemicals and foods, metallic powders, and materials that otherwise would oxidize. Additional advantages include removal of water at temperatures as low as 100° F. and recovery of solvents up to 99%, or better.

Stokes Advisory Service and testing facilities are available on a confidential basis to manufacturers who can benefit from Stokes' years of experience in high vacuum drying, freeze-drying, evaporation, and impregnation.

STOKES MAKES

Plastics Molding Presses,

Industrial Tabletting

and Powder Metal Presses,

Pharmaceutical Equipment,

Vacuum Processing Equipment,

High Vacuum Pumps and Cages,

Special Machinery

STOKES

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Candlepower and **HORSEPOWER** **DON'T MIX!**

WAX MAY BE ESSENTIAL in a candle but on cold mornings it's a nuisance in an automotive or aircraft engine. Engine lubricants flow freely at low temperatures only if their paraffin wax is first removed. Most refiners do this by solvent extraction with MEK and get not only improved lubricants but another valuable product . . . salable wax. This is only one of many industrial processes where MEK is proving its value as an economical solvent.

MEK is in greater demand than ever before in the formulation of high grade nitrocellulose and vinyl lacquers made to commercial and military specifications. This is true of thinners and primers, too, for

MEK improves quality while reducing both product cost and application cost.

MEK's high solvent power and dependable quality are being used to advantage by makers of rubber cements, industrial cleaners, adhesives and paint and varnish removers. Perhaps your products too can benefit from MEK's use.



METHYL ETHYL KETONE

If your problem calls for a solvent for vinyl or acrylic resins... synthetic rubber... cellulose derivatives, write now for full information and a sample of MEK.

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NEWSLETTER

U.S. expansion has been the big news week in, week out. But foreign companies have big ideas too, and this week some of them were flexing their muscles, getting set for a whirl at the U.S. market.

There's a distinct possibility, for example, that the British concern, Watford Chemical Co. Ltd., will be expanding its sales activities here, may decide within six months to a year to build a U.S. plant.

Watford, which has been shipping its fatty acids, esters, special emulsifiers to U.S. consumers—mainly in the food industries—from England, brings a new Canadian plant into production this month. It's on an 18-acre site in Scarborough, Ont. (near Toronto), roughly 100 miles from the border. Naturally the company will supply U.S. buyers from here.

And it will push sales to chemical firms as well as food people. One good bet: lube additives. Watford sells plenty of oleates to British oil companies, would be well-recommended in cracking this market here.

Foreign countries are on chemical executives' minds for another reason too. They're looking at them as good places to do more of their research.

Here's why: In sharp contrast to our technical manpower squeeze, there are many competent research men available in some European countries. Some U.S. companies, too, have credits that they can't get out. "Buying" some kinds of research—probably fundamental investigations—would solve two problems—and at bargain prices.

Europe isn't the only place either. Squibb has "unfrozen" credits in Argentina by establishing its antibiotics screening station there.

Northern Chemical Industries has decided on TVA processes for its Sandy Point, Me., plant (*See p. 16*) to make phosphatic fertilizers with nitric acid.

"It was practically an accident." That's the word from Procter & Gamble on how the new Blue Cheer (*CW Newsletter, Sept. 13*) got that way. In trying to improve the detergent, which was white when introduced in 1950, P&G researchers "mixed the ingredients, and it came out blue."

Test marketing has been going on for three months. Housewives can now buy the product in Providence, Portland (Ore.), Seattle, Topeka, Louisville and New York.

The white Cheer is still sold everywhere. But Blue Cheer is catching the public fancy, and P&G says it "doesn't know what will happen." It says it hasn't thought about tinting other products, but it could be done.

There's another household specialty in the news this week: an aerosol rug dyer, called Pronto Dye-Foam. Made by Aerosol Products Corp. (Chicago), the 12-oz. can retails for \$2.98, is enough for a 6x9 rug.

The product, formerly available in bulk form for use in shampoo machines by hotels, airlines, etc., renews old faded, worn rugs. It comes in several colors, is light-fast, cleaning-fast.

NEWSLETTER

Readyng a plan to sell its synthetic rubber facilities to private industry, Reconstruction Finance Corp. is now starting an engineering appraisal of its 26 properties. Among them: copolymerization plants, butadiene production facilities, a styrene plant, several related installations. A disposal plan must be submitted to the President by next March 1, according to the law governing RFC's ownership.

Both insects and insecticides are worries to appropriate federal agencies. Bollworms, reports the U. S. Department of Agriculture, are a major problem in Arizona and alarming in other areas; and in the lower Rio Grande Valley, insect damage to cotton is at an all-time high.

But researchers at the U. S. Public Health Service's communicable disease center (Savannah, Ga.) conclude after examinations of human fat for DDT that health hazards involved in widespread DDT use should be reconsidered and further investigated.

National Agricultural Chemicals Association last week complained that the Delaney committee apparently doesn't know what laws are already on the books. In asking for inclusion of pesticide marketing control under the Food, Drug and Cosmetic Act, the committee, says the Association, is ignoring the Insecticide, Fungicide and Rodenticide Act administered by the U. S. Department of Agriculture.

If the law needs to be beefed up, let the USDA do it by administrative regulations, concludes NACA.

"Non-profit" research institutions may have to pony up taxes to Uncle Sam, according to a recent Bureau of Internal Revenue ruling.

The new ruling provides that an institute's operations will be subject to a breakdown between actual research and commercial testing. Any profits from the latter category will be subject to taxes.

Commercial testing laboratories have been plugging for that kind of interpretation, charging that non-profit organizations had an unfair advantage over their taxpaying facilities.

Chemical planners will have a lot more data to work with when the U. S. Department of Commerce completes its 1953 Census of Manufacturers. The new one will contain more detailed information on a larger number of chemical and allied products than the most recent one (1947).

A draft of the proposed questionnaire is now being circulated to pertinent government and trade officials. Data asked—in addition to the usual employment, wages, man-hours worked, etc.—includes quantity and value of products made and shipped by each plant, quantity and value used within each plant and shipped between plants of the same firm, and quantity and value of products received by each plant.

Reilly Tar & Chemical isn't the only potential maker of synthetic pyridine and derivatives (see p. 65).

Another Midwest company, whose business has been predominantly the manufacture of bulk chemicals, hopes to complete plans for synthesizing pyridine and derivatives—including gamma-picoline.

Target date for production is next January. The firm is now giving the economics a final going-over, may reveal its plans within a month if all goes well.

A new twist on the chlorophyll-eating goat: The Lake Worth (Fla.) city council charges that Strong Cobb's chlorophyll extraction plant there presents an odor nuisance.

... The Editors

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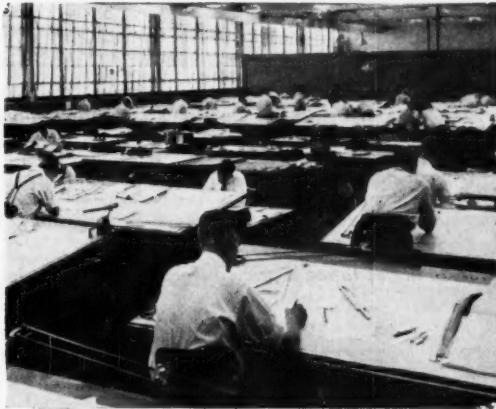


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BUSINESS & INDUSTRY . . .



EWING GALLOWAY

ENGINEERS AND SOLDIERS: Same fight on different fronts.

Service at Top Skill

Improper use of available technical manpower is endangering our defense program, the Engineering Manpower Council of the Engineers Joint Council warned last week as it put before the nation its recommendations to insure both military and civilian essential needs.

What Carey H. Brown, chairman of the group, had to say at a conference on manpower utilization and national security held in connection with the Centennial of Engineering in Chicago, was not exactly new. He's been saying more or less the same thing before various Congressional committees for the past two years (*CW, July 14, '51 and June 7, '52*).

Congress has listened politely and with misleading sympathy, for it has generally ignored the recommendations of the man speaking for the nation's civil, mining, metallurgical, mechanical, electrical and chemical engineers, as well as engineering educational institutions.

The conference, called after a study indicated that the government, especially the defense department, is taking more engineers than it requires, and then misusing them, included, in addition to Brown, representatives of the Department of Defense, General Motors, Firestone Tire & Rubber, and the American Council on Education.

Sound Policy, But . . .: Brown, quoting the President's statement on National Manpower Mobilization Policy that "each . . . serve in the

capacity in which he can contribute most to the total mobilization program," called it "basically sound." But he said that it has not been followed by executive branches of the government, that in determining whether a man should be called to military service, not enough weight is given to his role in the essential civilian economy.

He pointed out that the free nations, lacking superiority in numbers, must depend upon superior scientific and engineering skills for survival. Yet we would have a shortage of engineers even without the demands of the military for men. Part of this is attributable to the low birth rate in the '30s, resulting in a decreasing number of men who will reach age 18 each year until 1953, and there will be no upturn until 1956.

Thus, added to the current estimated deficit of 50,000 engineers, is this downward trend in the number of engineering graduates each year: 1952, 30,000; 1953, 20,000; and 1954, 17,000.

Moreover, students facing early draft are signing up in greater numbers for ROTC, which commits them to four years training, two years of active service on graduation, and then six years additional service in the reserve. Brown quoted a survey of engineering colleges showing that 16% of seniors in the class of '52 were commissioned as a result of ROTC training, as compared with only 11% the year before. Among undergraduates, 23% of juniors are

enrolled, 45% of sophomores, and 55% of freshmen.

What To Do: Among the recommendations advanced by the Engineering Manpower Commission to remedy this situation, are the following:

- Adhere strictly to the principle of using each person where his abilities best fit him for service.
- In national security planning, give more consideration to building our productive potential and coordinate this with our manpower needs.
- Strengthen Selective Service by having professional and specialized citizens advise local and state boards on essentiality of certain civilian services and on the specific value of the individual to be inducted.
- Modify Selective Service to give college students in engineering, science and other critical fields the chance to complete their educations before induction, as is now done for those in the ROTC program.
- Amend the Armed Forces Reserve Act of 1952 to give civilians control over classification and mobilization assignments of reservists with specialized skills, and to provide for continued training of professional and scientific personnel without interruption.
- With respect to ROTC programs, re-examine the trend toward providing branch general training and discontinuing technical curricula; establish new criteria in choosing students to insure better distribution of graduates between military and civilian

BUSINESS & INDUSTRY

agencies; set realistic quotas and restrict entrants to such quotas.

Who'll Do It? All at the conference were in complete agreement with the aims of the EJC in trying to maintain enough "soldiers of industry" to keep soldiers in uniform in the fight. Not all, however, were in accord on all the changes recommended; and the Defense representative outlined the steps that department had done to insure better utilization of skills.

The engineers centennialing in Chicago didn't exactly jam the baroque Grand Ballroom of the Conrad Hilton, where the meeting was held, either. Perhaps it was because most of them already realize the situation.

The big question, of course, is what action Congress will take on the recommendations within their sphere. If they pay no more attention then they did last summer, little improvement can be expected. And last week, Congressmen were worrying about elections, not manpower problems.

Another First

Northern Chemical Industries, which operates the only sulfuric acid and superphosphate manufacturing facilities in Maine, now is out after another first: It will build a \$1.5 million nitric acid plant at Sandy Point, about 20 miles down the Penobscot River from Bangor.

The company will use the nitric in manufacturing ammoniated superphosphates, which will be mixed with muriate of potash and sold as a complete fertilizer.

The step marks an expansion not only of NCI, but of the Summers Fertilizer Co., which has voting control over the chemical concern.

NCI has received a rapid tax write-off certificate for 65% of \$1,395,000 for the production of nitrophosphatic fertilizer. This certificate would cover both the nitric facilities plus a unit for treatment of the phosphate rock. The company plans to spend a total of \$2.1 million on new construction—a \$0.6 million mixing plant is to be built in addition to the nitric unit. Present superphosphate manufacturing facilities apparently will be adapted to make the new material.

The company expects to produce about 16,000 tons year of nitric acid from ammonia, which it will import. And while the approximate 5,000 tons which it would buy annually would hardly bite into any manufacturer's production, there is a good chance for expanding ammonia use in the area if the ammonia wood pulping process (now used only by Eastern Corp.) gains general acceptance.

East-West Liaison Checklist

DO YOU—

- Delegate maximum authority to western managers?**
- Have a set schedule on what type of communications should be handled by phone, mail or teletype?**
- Delegate to one man the task of handling communications between offices?**
- Plan western trips of adequate length for top management?**
- Recognize the unique situations of the West in your market research?**
- Periodically review prices to see if price differentials are causing lost business?**

Keeping Them in the Family

The status of the 11 western states as a chemical market is often considered to be no different from that of the other 37.

But these days, while the states still account for only 10-15% of total chemical sales, there's a new factor to consider: the growth rate. The area is growing at a much faster rate than any other part of the United States.

To the dedicated cult of Westerners (spelled, of course, with capital "W"), such progress is natural. But its lack of recognition by anybody east of the Rockies is a never-failing source of wonderment.

Such a lapse among companies with headquarters in the East has, in the past, made their western representatives consider themselves stepchildren. How many of these western branches feel was brought to light last month when the San Francisco office of a national management firm published a report on East-West company relationships.* Main point in the report: Firms with poor liaison between home and western offices stand to lose out on business as the West expands.

To check whether the survey could be applied to the chemical field, CW interviewed a spate of western company managers. Their views ranged throughout the spectrum:

"Communications between East and West couldn't be better," said one.

Snapped another, "The home office has absolutely no conception at all of the geographic and transportation problems we face."

Overall, however, the managers felt that there is a growing awareness of

the importance of the West, and an appreciation of its unique problems.

Wide Open Spaces: "There isn't a smokestack every 100 yards like there is in Jersey," one man emphasized, suggesting, with a bitter note in his voice, that eastern offices should hang up western state relief maps with railroad routes and principal highways shown in fluorescent paint.

Since (with 400 miles between some customers) a technical service man can't arrive overnight, a western salesman must fill the dual role of salesman and technician.

As a corollary, the western representative must spend a greater proportion of time in making service calls.

Plane, not Train: Another contrast is the westerner's wide use of airplanes versus eastern devotion to railroad travel. One top executive from the East decided not to take a western trip because travel (by rail) would have taken up so much of his available time.

But one of the best ways to share—and solve—problems is visits by easterners and westerners in each other's area. Some companies require their eastern salesmen to spend two weeks visiting western plants, and vice versa.

Others call all their salesmen in for a joint meeting once or twice a year.

Company officials other than salesmen are participating in such a program. But the western men stress that a trip of less than 10 days duration isn't worthwhile to either end.

One manager, whose company encourages such intercourse as a result of its awareness of the West, now feels that his division is blessed with so many visits that "they've become a damn nuisance."

* "A Survey of East-West Marketing Operations," by John D. Louth, McKinsey & Co. Naturally, it has already been popularly subtitled "The McKinsey Report."

More Autonomy: But such liaison doesn't solve every problem. Many companies which used to require constant referral to the home office now give their western branches more and more autonomy. But the "how far" aspect brings disagreement:

"Western managers," says one executive, "should carry authority equivalent to any vice president." But another warns that autonomy, carried too far, can produce schism and injure the whole organization.

All too often, said one man who was interviewed, policy changes are made without consulting the West. On such occasions, the word comes down that "this is what we're going to do from now on in the East." And even if there is no rule, there is certainly pressure for the West to go along.

Pricing Problems: Certainly, one of the sorest points in East-West relationships has been that of price differentials.

The long freight haul from any other area brings an economic need for price differentials which do not favor the West. Salesmen who have to face competition from Pacific-produced goods are bitter over this.

And many times, their plaints fall on deaf ears. Said one manager: "Revision of price differentials remains a problem which most companies still attempt to ignore."

Perhaps one continuing answer to the intra-company communication problem is the assignment of an expeditor to serve as the West's representative in the home office.

Ideally, suggested one interviewee, such a man should be a westerner, who would know the geography, the competition and other area factors.

"But where," he continued, "would you find a westerner willing to live in the East?"

Louder Voices

Labor unions that deal with the chemical processing industries are rounding out their convention season this week with delegates demanding that their unions assert themselves more vigorously in many phases of national affairs.

Example of the way these unions' interests are branching out is in the proceedings of the International Chemical Workers Union (AFL), which is urging its members to take a leading role in political campaigns in every state; to bolster support for Point Four aid to underdeveloped areas; and to work for universal disarmament and "a foreign policy for labor."

The ICWU, boasting the largest

membership in the chemical field, spent nearly half of its five-day convention in New York getting round-the-world messages from such personages as Mrs. Eleanor Roosevelt, member of the U.S. delegation to the United Nations; Serafino Romualdi, Latin American representative of the AFL; Maniben Kara, India, woman member of the ICFTU executive board; Gordon Dean, chairman of the Atomic Energy Commission; President Truman; Senator Irving M. Ives, New York Republican; Representative Melvin Price, Illinois Democrat; and William Green, long-time president of the AFL.

Plunge into Politics: Green also was



AFL'S GREEN TO LABOR: Top priority is election of "a liberal Congress."

billed as keynoter for the AFL confab in New York this week. In this convention, the AFL is showing keener interest in partisan politics than ever before. For the first time in AFL history, the Presidential candidates of the two major parties were invited to address the convention. (Both Eisenhower and Stevenson accepted.)

Other unions holding their conventions this week are the United Rubber, Cork, Linoleum & Plastic Workers (CIO) in Asbury Park, N. J., and the United Paperworkers of America (CIO) in New York.

Winding up their sessions last week were two other unions that represent chemical employees: in Philadelphia, the Oil Workers International Union (CIO); and in New York, the International Union of Mine, Mill & Smelter Workers (Ind.).

Union Ups Pay Scale: Possibly in the hope that generosity will prove contagious to company executives, the

Oil Workers raised the salaries of their union employees by amounts ranging from 14 to 25%. The OWIU president's pay now will be \$12,000 a year. The delegates renominated their three top officials (O. A. Knight, president; B. J. Schafer, vice-president; and T. M. McCormick, secretary-treasurer), and the membership's approval is expected to be a simple formality.

The Oil Workers endorsed the Stevenson-Sparkman ticket, instructed their officers to try to broaden the bargaining base from plant-by-plant to company-wide, and rejected a proposal to build up an "adequate" strike fund.

McCarran's Scalp Sought: Mine-Mill, planning to observe its 60th anniversary next year (probably in Denver), received a plaque from the Civil Rights Congress "in recognition of its contribution to the vital struggle for the rights of Negro workers in the South."

About 250 delegates, true to the Mine-Mill tradition of belligerent militancy, roared wrathfully at Senator Pat McCarran, Nevada Democrat whose subcommittee on internal security has subpoenaed four Mine-Mill leaders to a hearing at Salt Lake City next month. Union President John Clark (one of the subpoenaed recipients) charges that McCarran is trying to reinstate the "labor blacklist" in American industry and set up a Nazi-like "labor front."

COMPANIES

United Dye & Chemical stockholders have approved the plan to increase the authorized stock from 150,000 to 2,500,000 shares (CW, July 19). The company has no present plans to issue such stock.

• Incidentally, UD&C has completed the sale of the physical assets of its subsidiary, United Sanitary Corp. (Mannington, W.Va.)

Foote Mineral plans to issue \$2 million worth of convertible debentures to help finance its lithium expansion plans. The company stockholders recently approved a plan to increase its authorized debt (CW, June 14).

W. R. Grace, which had considered sites in southern Illinois, Gulfport, Miss., and New Orleans for its proposed \$20 million ammonia-urea plant, now has decided on a site near Memphis, Tenn., for the facility. A group of nearby residents threatened a court suit (CW, Aug. 30) on the grounds that the plant would be a "nuisance."

Gulf Sulphur (North Kansas City, Mo.)

BUSINESS & INDUSTRY

plans to sell 225,000 shares of 10¢ par stock at \$3 per share. The money will be used in financing the company's Tehuantepec, Mexico, sulfur explorations.

Wabash Ave. Shuttle

The Seventh National Chemical Exposition was one of the three events that drew chemists and engineers to Chicago's Wabash Ave. last week.

The calendar said September, but the thermometer said July as exhibitors and visitors met in the historic but hot Chicago Coliseum, sixteen blocks south of the city's center along Wabash Avenue. Eight blocks up the street at the 8th Street Theater (and elsewhere) engineers of every persuasion celebrated the Centennial of Engineering; seven blocks still farther up, in the plush Palmer House, the American Institute of Chemical Engineers convened.

But most of them sooner or later found their way down the street to the Exposition, where 213 exhibitors displayed their latest-model molecules and machines.

Foreign Flavor: American firms were well represented, but interspersed among their exhibits, like raisins in a fruit cake, was a larger number of foreign purveyors than in previous shows: Atomic Energy of Canada, Ltd., a Crown corporation, was selling radioisotopes; its higher-flux pile makes "hotter" isotopes (especially cobalt 60) than the AEC here. Schumachersche Fabrik (CW, Aug. 23, '52) and Westfalia Separator A. G., both of Germany and both represented by their American agents, showed chemical process equipment.

The Federation of Belgian Chemical Industries stressed its preeminence in sulfuric acid, phosphate and nitrogenous fertilizers, gelatin, cobalt and radium as well as synthetic organics, pointed out that it also buys large quantities of materials from the U. S. and Canada. Watford Chemical Co., Ltd., British manufacturer of fatty acid esters and special emulsifiers, talked about its a-building Canadian plant.

Carnival Capers: But among the sober-sided displays of pumps and pesticides, filters and fertilizers, sports-minded visitors could play bingo with Monsanto, show-down poker with Emkay (fleet-rental service); culture-minded chemists could appraise the 60-odd paintings by their chemical brethren; foot-weary conventioneers could sit and see industrial movies; thirsty brow-moppers could quaff Pepsi-Cola on the ground floor, highballs in the basement.

More and more exhibitors were dis-

CURRENT LIST OF DPA-CERTIFIED FACILITIES

Company, Location	Product	Amount Certified	% Certified
Smith-Douglas, Livingston County, Ill.	Phosphoric acid	\$ 439,000	45
Virginia-Carolina, Nichols, Fla.	Phosphatic fertilizers	4,500,000	45
Mothieson Chemical, Pasadena, Tex.	Phosphatic fertilizers	1,811,292	45
Best Fertilizers, Lothrop, Col.	Phosphatic fertilizers	471,000	45
Southwest Fertilizer & Chemical, El Paso, Tex.	Phosphatic fertilizers	290,683	45
Northern Chemical Industries, Sandy Point, Me.	Nitrophosphatic fertilizers	1,395,000	65
Allied Chemical & Dye, South Point, O.	Fertilizer	5,994,500	75
Phillips Chemical, Pasadena, Tex.	Fertilizer	3,086,050	45
Chemical Warehousing, Oklahoma City, Okla.	Fertilizer	245,000	45
Foot Mineral, Kings Mountain, N.C.	Lithium ores	225,000	70
Union Carbide & Carbon, Niagara Falls, N.Y.	Chemicals	1,207,800	50

covering, moreover, that chemists and engineers, like most males throughout history, were attracted more by blondes than blenders. Molecular models and equipment models were still in the majority, but wondrously molded flesh-and-blood models were in the ascendancy. Fitting into the familiar American pattern, the "chem show" was hence a blend of a little fun with a lot of serious attention to industry's continual progress.

EXPANSION

Phenol: Carbide's Bakelite division has completed work on a new phenol production unit at its Marietta, Ohio, facilities. Capacity of the plant is 60 million pounds/year.

Formaldehyde/Pentaerythritol: St. Maurice Chemical's plant at Varennes, Que., will be onstream next spring, producing at a yearly rate of 30 million pounds formaldehyde and 3 million pounds PE. Heyden, one of the company's corporate parents, did process design; Shawinigan, the other parent, is handling construction through its engineering company subsidiary.

Cryolite: Reynolds Metals will construct a cryolite recovery plant near its Longview, Wash., aluminum production plant. Cost is estimated at \$1 million.

Sodium Perborate: When present construction is complete, American Metallic Chemicals will be producing perborate at a rate of 2.5 million pounds per year. The plant, scheduled to go into production next August, will be financed in part by the \$1.3 million stock issue recently registered with the SEC (CW, Sept. 13).

Chlorophyllin: Add Glidden to the list of crude chlorophyllin producers. It has begun extraction from alfalfa at its flaxseed extraction plant at Buena Park, Calif.

• Strong Cobb's American Chlorophyll division has awarded Blaw-

Knox contract for its expansion of its Lake Worth, Fla., extraction facilities.

Chemistry by the Sea

Trailing Miss America by a week, the American Chemical Society moved to Atlantic City last Sunday in high good cheer for its 122nd annual meeting.

For five full days, chemistry held sway on the Jersey Shore in the form of technical papers, trips to nearby industrial plants and the usual professional group get-togethers.

From forty official hotels, 8,000 chemist and chemical engineers flocked to sessions of the 19 scientific and technical divisions of the society, dwelt on problems ranging from cancer prevention to that of feeding the people of the world. Needless to relate, all was not work. Evenings, for many, were devoted to a first-hand scrutiny of the seaside resort's culture.

Clearly evident at this national gathering was a serious concern for public opinion. Possibly taking a cue from Manufacturing Chemists' Assn., which has taken the lead in sparking sound public relations in the chemical industries, the ACS showed an obvious will to get its profession's story to the public.

Thursday's public relations symposium on local ACS section public relations formalized this urge, opened with a paper bearing the not-surprising title, "Why Public Relations." The answer, for the chemist, was quickly supplied by public relations counsellor Richard Aszling: "Public relations is a vital force in . . . society, . . . chemists . . . must acknowledge that fact if they would survive and prosper."

LEGAL

Safety Order Argued: Goodyear Synthetic Rubber is fighting the Ohio State Industrial Commission's order that requires Goodyear to put into effect 44 new safety regulations at the RCF's synthetic rubber plant in Akron. Goodyear emphatically denies the factory inspector's charges that the plant

Rubber needs **WING-STAY S** for this protection

Anything made of rubber needs protection against oxidation, sunlight, aging, and excessive heat. White and light-colored products particularly need protection.

Choice of the rubber industry to protect these items is WING-STAY S, produced by Goodyear's Chemical Division. For WING-STAY S keeps colors clean-looking, will not migrate to the surface or into

adjoining products, is nonstaining and gives positive protection.

Since August 1951, more nonstaining synthetic rubber, including GRS-1006 and GRS-1502, has been made with WING-STAY S than with all other antioxidants combined.

By using WING-STAY S, you will secure the best possible balance—in natural or synthetic rubber—between preservative properties, nondiscoloring and nonstaining properties and low cost. For details, write:

Goodyear Chemical Division,
Dept. D-4, Akron 16, Ohio



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FOR YOUR INFORMATION

Every month Monsanto publishes these pages of information which may be helpful to you. This issue discusses:

Preventing Paint Mildew

Textile Scrap in Plastics

Versatile Intermediate

New Paints Booklet

Water-soluble Fertilizers

Mineral Food Supplements

Plasticizer Extender

AROCOLORS for Coatings, Paints

Additional information on any of these subjects will be provided by any Monsanto Sales Office or in response to your request by coupon or letter.

MILMER 1 mildew-proofs paints



The difficult problem of making paint mildew-proof can be solved with Monsanto Milmer^{*} 1.

Paint on any surface exposed to excess humidity is particularly vulnerable to fungal attack, and research has shown that many of the outdoor painted surfaces, once thought to be discolored by dirt, actually were mildewed.

Previous attempts to develop fungus-resistant paints usually failed because of one or more of the following reasons: Paint would "seal off" the fungicide and make it ineffective; the fungicide would ruin paint quality; or the fungicide was so highly toxic that it was difficult to use.

Milmer 1 has none of these disadvantages. It is effective in small concentrations (2% or less by weight), does not affect paint quality, and is essentially nontoxic to

higher animals. Milmer 1 is, by far, the most effective fungicide commonly used in paints.

Milmer 1 is easy to incorporate into paint formulations. It can be mixed with a suitable vehicle and ground like a pigment. Or, it can be added as a ready-to-use formulation.

Because of its nontoxicity and effectiveness, Milmer 1 is of special service in paints used by food processing plants, such as bakeries, dairies, meat packers, breweries, cheese plants, sugar refineries, cereal manufacturers and numerous others.

If you manufacture paints, mail the coupon for literature describing Milmer 1. If you are a user of paints, the coupon will bring you names of manufacturers offering paints mildew-proofed with Monsanto Milmer 1.

SANTICIZER 8 helps turn textile scrap into useful plastics

What to do with scrap of polyacrylic-type and nylon-type textile fibers?

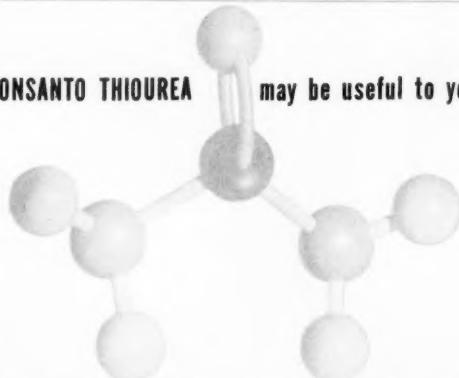
One textile manufacturer recently called on Monsanto Technical Service to help him answer that question. He was getting from 20% to 25% scrap of a staple fiber that was costing him \$1.25 per pound.

Monsanto Santicizer^{*} 8 was found to be compatible with the fiber and, by rolling on a heated, 2-roll mill, a moderately flexible sheeting was produced. In addition, some tape was extruded. The finished plastic had excellent resistance to greases, hydrocarbons and other solvents and high resistance to abrasion. The flexibility could be adjusted by the amount of plasticizer.

If you have a problem of using scrap synthetic fibers, mail the coupon for more details.

MONSANTO THIOUREA

may be useful to you



In addition to its many proved uses in industry, Monsanto Thiourea may hold numerous undiscovered applications. Perhaps you can employ the chemical to your advantage.

Thiourea now is used in photographic chemicals; in high-quality thioglycolic acid for cold permanent wave solutions; in liquifying animal glue; in the manufacture of sulfathiazole, dyestuffs and resins.

It is also used by the textile industry.

Monsanto Thiourea is available for immediate delivery in 75-pound bags. It comes as white, free-flowing crystals with a maximum of 0.50% moisture and 0.05% ash.

If you are a qualified chemist and interested in experimenting with thiourea, we will be glad to send you a sample. The coupon is for your convenience.



Send for new booklet on Monsanto Penta

If you use wood for construction or in your products, you will find Monsanto's new, 16-page booklet, "For Maximum Wood Protection, Specify Penta," both interesting and useful. A copy will be mailed to you promptly if you will mail the coupon.

Water-soluble fertilizers

To help meet increasing demands for plant nutrients, Monsanto has expanded production facilities of four basic soluble fertilizer chemicals—Mono Ammonium Phosphate, Di Ammonium Phosphate, Mono Potassium Phosphate, Phosphoric Acid 75%.

Greater availability of these basic fertilizer chemicals is of particular interest to fertilizer manufacturers who are developing new applications of high-analysis soluble plant foods which combine nitrogen, phosphorus, potash and, in many cases, herbicides and insecticides in addition.

Write for formulating information, with typical analysis chart.

Dicalcium Phosphate mineral feed supplement

Feed manufacturers and formulators are turning to Monsanto dicalcium phosphate—made from 99.9% pure elemental phosphorus—because it is a quality mineral supplement of uniformly high phosphorus content... It contains phosphorus which is virtually 100% assimilable by the animal—produces results that growers can see... Prompt deliveries, in 100-lb. bags and bulk carload lots, assured by Monsanto's

strategic, convenient plant location at Trenton, Michigan... Contact any Monsanto District Sales Office for added information.

HB-40 Low-cost co-plasticizer

HB-40 is a low-cost, extender-type plasticizer that makes worth-while savings possible in processing vinyls—at the same time, it helps maintain product quality.

HB-40 is finding wide use in producing vinyl extrusions, vinyl pastes, vinyl slush moldings, vinyl calendering. It is also of special interest when used as a low-cost plasticizer in polystyrene casting resins, polystyrene adhesives, molding polyvinyl carbazole, strip coatings for metals, floor tile compositions, asphalt base paints.

Full information on physical properties, application and use is contained in Technical Bulletin No. P-104.

Some uses for AROCLORS

(chlorinated biphenyl and chlorinated polyphenyls)

The AROCLORS comprise a series of chlorinated biphenyl and chlorinated polyphenyls that have numerous applications in many industry operations. Important among these uses are—

In *Pliolite S-5* and *Marbon 9200*... Contribute fast-drying properties and provide excellent protection against acids, alkali, moisture and other common corrosive influences. Ask for Technical Bulletin No. P-126.

In maintenance paints... Add resistance to water, acids, alkali—contribute to non-flammability, adhesion and gloss. Also used in modified and synthetic rubber coatings, lacquers, vinyl protective coatings. Ask for Technical Bulletin No. P-124.

As heat-transfer medium... AROCLOR 1248 is an ideal nonflammable-type liquid-phase heat-transfer medium for temperatures up to 300° C. It has been used for many years with gas-fired units in the range of 200,000 to 400,000 B.t.u. per

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Monsanto is the world's leading producer of phosphates, including the sodium phosphates... Mined from huge deposits in Idaho and Tennessee, phosphorus matrix is converted to elemental phosphorus of better than 99% purity—this, in turn, is the source of phosphoric acid from which these phosphates are derived.

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For details on Monsanto sodium phosphates and their varied applications, contact the nearest Monsanto District Sales Office or write direct to the Phosphate Division in St. Louis.

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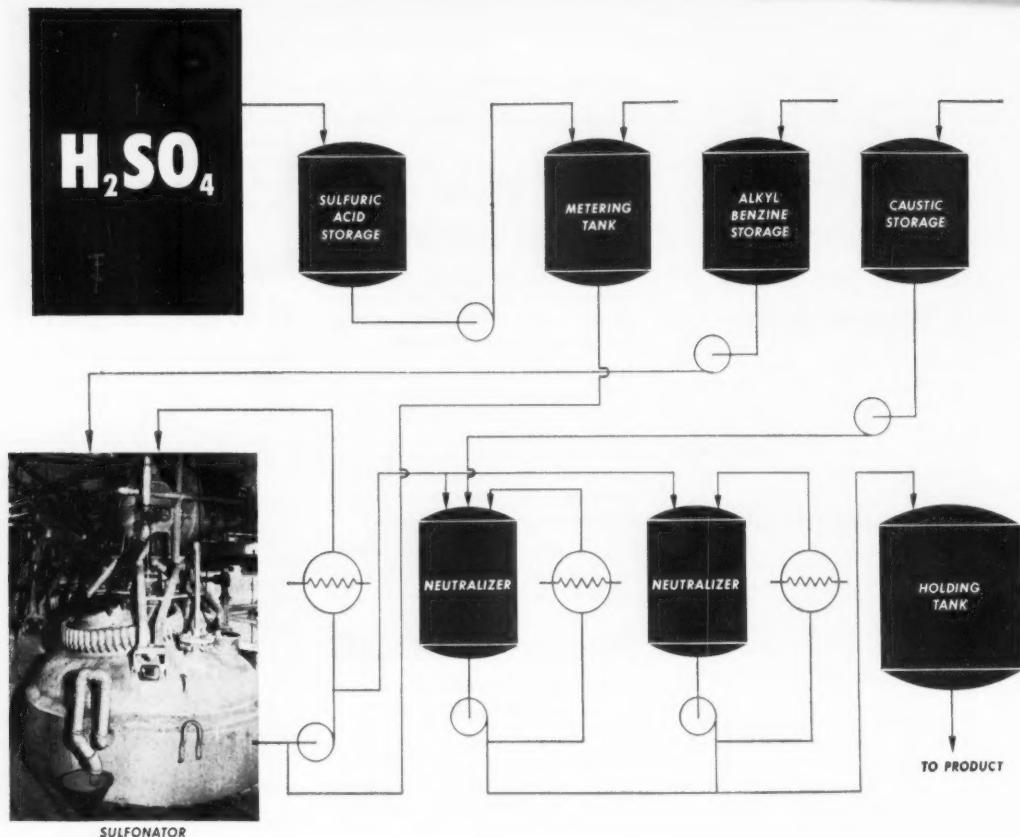
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Pfaudler glassed steel is resistant to *all acids except hydrofluoric*, even at elevated temperatures and pressures. With a new Pfaudler glass, it is possible to handle not only acids but also *alkaline solutions* up to a pH of 12

and 212°F. It is now possible to perform both acid reactions and neutralizations in a single glassed steel vessel.

To give it working strength, Pfaudler glass is fused to steel in huge furnaces at temperatures of 1500-1700°F. *This high-temperature firing locks the glass to the steel and makes it hard and tough.*

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Solid Basis for Further Growth

CANADIAN SALT DEPOSITS, though perhaps overshadowed recently by Canada's petroleum resources and petrochemicals based on them, promise well for future growth of its heavy chemical industry. And current industrial interest in Western Canada's large salt beds portends early establishment of a chlorine-caustic industry to meet the rising needs of oil and associated chemical industries in the area.

This map of salt reserves, worked out with the assistance of Canadian National Railways, shows the areas now in production:

- **Alberta:** Canadian Salt Co. at Lindbergh obtains brine from beds over 2,800 feet below the surface. Natural gas from the strata above the beds is the fuel for producing fine salt from vacuum pan evaporators.

- **Saskatchewan:** Dominion Tar

and Chemical subsidiary, Prairie Salt Co., operates a vacuum pan plant for fine salt at Unity. Brine comes from beds 3,500 ft. deep.

- **Manitoba:** Canadian Salt at Neepawa turns out fine salt by vacuum evaporation of nearly saturated brine from 1,000 ft.-deep beds. Magnesium and calcium chloride are also produced.

- **Ontario:** Salt comes from wells 800-1,500 ft. deep in the southernmost part of the province between Lakes Huron and Erie.

Dominion Salt operates plants at Sarnia and Goderich, producing mainly fine salt from vacuum evaporators, but also coarse salt from grainers. At Sandwich, Canadian Salt produces both fine and coarse salt. Brine from these wells is used in caustic-chlorine plants in Ontario and Quebec; fine salt is shipped to alkali plants in both

provinces.

- Purity Flour Mills makes fine and coarse salt at its Goderich plant, and Warwick Salt produces coarse salt from its wells near the village of Warwick. Brunner-Mond Canada operates a large soda ash plant at Amherstburg, getting brine from wells to the north. Dow Chemical of Canada produces caustic and chlorine at its Sarnia plant from its nearby brine wells.

- **Nova Scotia:** Dominion Salt's plant at Nappan turns out fine salt from brine obtained from massive salt beds 860 ft. below the surface.

- Malagash Salt Co. operates the only salt mine in Canada, at Malagash, Cumberland County. The product is sold chiefly as de-icing salt for use on roads and railways. Of interest, however, is the deposit's location—on the seaboard, close to large deposits of gypsum and coal.

lacks safeguards for handling toxic and explosive gases; that certain equipment is not properly maintained; and that there is no stand-by power for ventilation and fire-fighting.

'Vague and Indefinite': Philadelphia's air pollution ordinance has been attacked as unconstitutional, also vague and indefinite. George J. Ivins, attorney for a company accused of violating the ordinance, is asking quarter sessions court to nullify the ordinance, contending that there's a difference between "noxious gases and fumes" and mere "odors." John L. Hodges, chief of the city's air pollution division, says the plant's deodor-

izer is "too small to do much good." The company, Keystone Rendering, is appealing a \$50 fine levied by a city magistrate when near-by residents testified the plant's fumes caused headaches and loss of appetite.

Advertising Soft-Pedaled: Sulfur-8 Chemical Co. of Brooklyn has entered into a stipulation with the FTC to stop advertising that its principal product has certain healing effects on the hair and scalp. The stipulation permits the company to say that Sulfur-8 will relieve hair dryness and brittleness, but forbids the claim that the tonic will prevent loss of hair or will stimulate hair growth. FTC says such stipu-

lations are used where there has been no intent to defraud or mislead.

FOREIGN

Sulfur/Spain: A worldwide demand for sulfur that was strong during the past calendar year brought a 25% increase in Spanish pyrites production. Production reached 1.63 million metric tons, of which 1.54 million were exported. Of this, 29% went to Germany. Under a government program, producers could use 15% of the foreign exchange proceeds for purchase of machinery and equipment.

Heavy Chemicals/East Europe: Ac-



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CENTURY 1210

Single Pressed Stearic Acid—a standard single pressed grade of better than average color for use where cost is a factor.

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BUSINESS & INDUSTRY

cording to reports seeping through the Iron Curtain, Hungary and Roumania have established a joint chemical firm, Romagchim. The company will have charge of an ammonia facility being built in Hungary which will use natural gas from Roumania, and a soda ash plant to be built in Roumania.

TB Drugs/Peru: The government has authorized duty-free importation of the isonicotinic hydrazides. Squibb, incidentally, is planning local manufacture of the items.

Fertilizer/Japan: A production target of 2.4 million tons of nitrogen and 1.5 million tons of phosphatic fertilizer has been set for the 1952-53 season. This compares to 1951-52 production of 2.3 and 1.7 million tons, respectively.

Germany: The need for expansion capital is certainly not a U.S. monopoly. At the recent meeting of the Rhine-land Chemical Industries Association at Duesseldorf, the group's chairman protested against the basic commodities investment law which exempts the "basic" industries such as coal mining from tax payments under an investment levy. The chemical field does not have such an exemption.

Getting the Go-Ahead

Snyder Chemical Corp. and American Research and Development this week are scheduled to get Securities and Exchange Commission approval of a reshuffle of Snyder's corporate set-up. The SEC was brought into the matter on a single phase of the reorganization: ARD and Snyder are considered related companies under the Investment Act of 1940; thus SEC permission is needed to enable Snyder to exchange the 32.4% of its preferred stock now owned by ARD.

The change will expand the bailiwick of William L. "Bill" Abramowitz and his associates, who presently control the companies known as the American Resinous Chemical group.*

Snyder was formed in May 1946, and received its first financial help from ARD in July 1947. Its first development work centered on phenolic resins, later branching into ureas and melamines.

But unfortunately for the company, mounting costs of development out-

* Abramowitz, Sidney Baum, Jacob Lichman, Maxwell Robinson and Ashworth Still have held high management posts in the various companies—including American Resinous Chemical, American Coating Chemical, American Polymer, American Monomer and Monomer-Polymer corporations—in addition to Snyder. American Research and Development owns or holds options to purchase 10% to 33% interests in the various companies.

weighed the then-realizable dollar value of the products. Snyder's directors were faced with a deficit of almost \$200,000 in March 1950. As an upset, Abramowitz and others of the ARCC were called in to take over active management.

Temporary agreements made since that time are now about to give way to a permanent arrangement. SEC approval must be obtained only on one facet of the program: the buying back of the preferred stock owned by ARD. Owners of better than 99% of the preferred have agreed to waive arrearages, and to accept a reduced redemption price on the new preferred stock to be issued.

The number of shares of common stock is to be doubled; the ARCC group will get enough shares to give it a third of the total outstanding stock in return for its first months of management.

Snyder will have the option to repurchase these shares if total earnings after taxes for the three years ending in March, 1954, do not reach \$75,000. If earnings exceed \$225,000 before March, 1956, the ARCC men can buy for 1¢ a share enough stock to increase their holdings to 50%. If the \$225,000 earnings figure is reached between March, 1956 and 1961, the price per share will be higher—varying between \$1.50 and \$7.50.

Right now, the whole matter depends on the SEC. But since the commission has heard from no objectors to the plan, it looks like the agreement will get a government go-ahead.

Split Decision

Both sides "lost" in a clash between a chemical company and a union over the union's accusation that the company had not bargained in good faith.

The National Labor Relations Board's "decision and order" hurts the union by upholding the right of the company, National Carbon, to refuse to rehire 40 strikers whom the company regarded as guilty of "strike misconduct."

On the other hand, the order gives the union some consolation by requiring the company to post a notice stating that it will bargain collectively with the CIO Gas, Coke & Chemical Workers as long as that union is the lawful representative of the employees.

The case stems from a series of 37 negotiating meetings in 1949 that failed to produce a contract. The Chemical Workers then struck at National Carbon's Atcheson, National and Republic plants at Niagara Falls,



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BUSINESS & INDUSTRY

N. Y. The NLRB decision hinged on the majority's finding that the stoppage was an "economic strike" and was not due to any unfair labor practice on the part of the company.

LABOR

Strike Subsiding: News of strike abatement and peaceful contract negotiations outweighs news of labor conflict in the chemical processing industries this week. One interpretation: People want to clear their decks of weapons and trappings for industrial warfare so they'll be able to concentrate on the World Series, football and the hunting season.

• Typical of the recent settlements is the one between Pathfinder Chemical Corp. and Local 277 of the CIO Gas, Coke & Chemical Workers at Niagara Falls, N. Y., traditional spot for blissful accord. Included in this one-year pact: 7¢/hour general wage increase, higher shift differentials, and other benefits for the approximately 100 employees covered.

• Somewhat more startling is word from Bartow, Fla., that a 15-week phosphate strike has been ended by a new contract between Swift & Co. and Local 38, AFL Chemical Workers Union. Plant Manager Howard P. Gould says the company was able to get WSB approval on the 5¢/hour wage rise only because of the cost

of-living index increase reported last month.

• At Cleveland, some 400 members of United Mine Workers' District 50 trooped back to work at the Strong Cobb & Co. chemical plant after a 10-day strike. UMW Regional Director Pat Mingarelle says the contract, arrived at with the help of a federal conciliator, provides for these hourly wage increases: for maintenance workers, 12¢; production workers, 10¢; and women, 4¢.

• A temporary settlement brought about 1,000 men back to work on construction of Reynolds Metals Co.'s new alumina plant at La Quinta, near Corpus Christi, Tex. The construction workers had honored picket lines of the AFL Teamsters Union during a brief strike against the contracting company.

• After a 12-day strike by some 16,000 employees at nine plants*, B. F. Goodrich Co. accepted the United Rubber Workers' demands for a 10¢/hour wage boost and a union shop—the same concessions offered by the other members of the "Big Four" rubber firms. Company and union negotiators spent 12 weeks in day and night bargaining sessions in Cincinnati before reaching agreement. The contract includes a clause requiring the union to assume greater responsibility for preventing and stopping wildcat strikes.

• Also in Ohio, Kelley Island Lime & Transport and the CIO United Stone Workers signed a one-year contract with a 10¢/hour increase that raises the average basic wage rate to \$1.42 an hour. The company operates lime plants at Marblehead, Clay Center and Gibsonburg.

• Construction work on four chemical and oil plants near Beaumont, Tex., resumed when WSB promised to re-study the petition of the AFL Operating Engineers' union that truck drivers be reclassified so as to hoist their wage rate by 57½¢/hour. The approximately 55 union engineers on the four jobs had shunned work four days in protest against WSB's original ruling.

Still Seething: On the seamier side of the industry's labor relations news this week are bulletins about four new and continuing strikes.

• Friction between West Virginia Pulp & Paper and the CIO Paperworkers has spread from the struck plant at Covington, Va., to the plant at Altoona, Pa., where production

* Akron, Ohio; Marion, Ohio; Oaks, Pa.; Miami, Okla.; Tuscaloosa, Ala.; Los Angeles; Cadillac, Mich.; Clarksville, Tenn.; and River-side, N. J.

New Production Boss

HENRY M. FOWLER, formerly the defense production administrator, is the new director of the office of defense mobilization. His new position was formerly held by Charles E. Wilson, who resigned in a policy dispute with the administration last March.

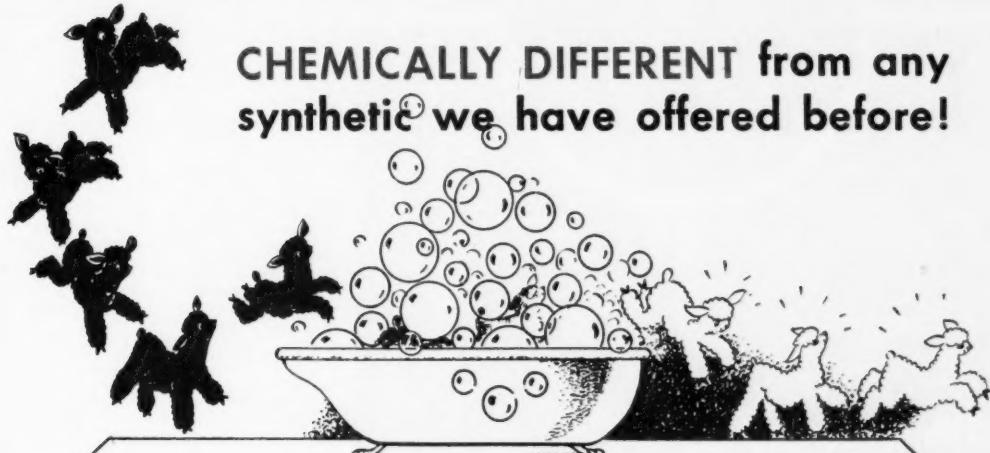
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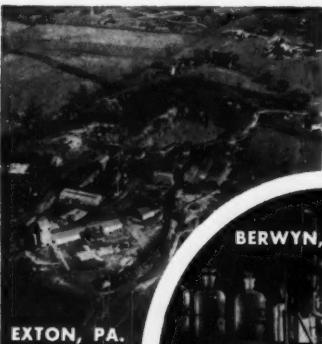
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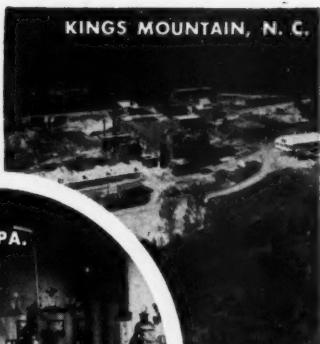
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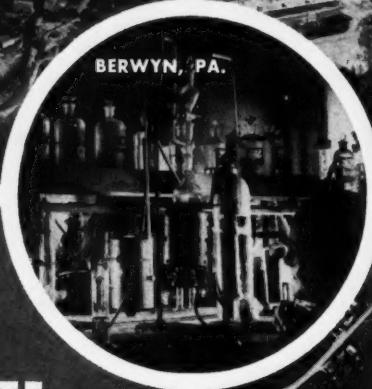


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stopped when some 450 workers hit the street.

• Also dissatisfied with their company's wage offer are 77 members of the Adirondack Leather Workers Union (unaffiliated), who are on strike against the Hermann Loewenstein leather tannery in Gloversville, N. Y.

• Unrest among AFL Iron Workers in four New England states has interrupted construction work at Monsanto's plastics plant at Springfield, Mass. The Iron Workers and the Building Trades Employers Association reportedly have agreed on a 13¢/hour wage increase that would push rates up to \$2.82 an hour, but still hanging fire is the union's demand for a 7½¢/hour increase in employer payments to a benefit fund.

• General Aniline went to court and asked for an injunction that would require the 500 striking production workers, members of the AFL Chemical Workers Union, to let company officials enter and leave the plant at Rensselaer, N. Y.; but before the court acted on this request, the union relaxed its grip on the plant and supervisory personnel were allowed to pass freely through the picket lines.

• Wage increases at the Dewey and Almy plant in Lockport, N. Y., ranged from 5 to 15¢/hour, and with all benefits added in, the total wage package represents an increase of about 20¢/hour, according to International Representative William Hilger of the CIO Auto Workers. Hilger says he was misquoted in the item appearing in CW for Aug. 23.

Timber Tussle

Japanese pulp and paper manufacturers, who lost many timber sources during and as a result of World War II, are eyeing Alaskan forests, long the cynosure of United States companies. Basic area in question this time is the Tongass Forest, which is located in southeastern Alaska. At present, Ketchikan Pulp Co., joint American Viscose-Puget Sound Pulp and Paper subsidiary, is building a plant at Ward Cove, near Ketchikan. It will use Tongass lumber (CW, May 10).

Negotiations presently going on between Japan and the U.S. State Department center about possible organization of a \$20 million Japanese-U.S. corporation. Such an arrangement would enable the Japanese to cut down timber and raft the logs back to Japan.

A \$10 million loan to the company is under discussion, and a delegation

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Tall Tale

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to Fabulous Fact

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of about 15 Japanese officials will come to this country to exchange views on organization.

Deforestation: Before and during the war, Japan counted on forests on the Sakhalin Island and in the Maritime provinces of Manchuria. Both of these are now under Russian control. Planners' fear: If the U.S. doesn't help out during the present shortages, Japan will turn to Russia.

A similar view is not held by U.S. business concerns, which believe that the United States should be solely responsible for developing Alaskan timber resources. Among those who have protested (to the northwest regional office of the Department of Commerce) have been Ketchikan Pulp, its corporate parents, and Rayonier, Inc., which in the past has wanted to ship Tongass timber to its facilities in the United States proper.

Bullish Vistas Beckon

The chemical and drugs industry can count on "smooth sailing" over the ocean of finance, with calm seas and favorable winds predicted for the next three years, according to a registered investment-counseling firm in New York.

In an analysis of prospects for 24 chemical companies and 17 drug manufacturers, Value Line Investment Survey figures that the industry is due to keep on growing and thriving through 1955. It lists the common stock of only one of these companies (Rexall Drug) as being too high priced in relation to other securities, and selects the stocks of three of these concerns (Heyden Chemical, Merck & Co., and Parke, Davis) as "especially recommended."

Progress Sure: Holders of chemical stock, the Survey says, can look forward with confidence to a continuation of the growth trend in earnings and dividends. The rate of growth probably will be less rapid than at present, but "its direction is nevertheless definitely indicated."

In the case of drug company stock, prices may not climb much during the next 12 months, but dividend yields are good and over the longer term, the ethical drugs group "has interesting possibilities."

Outlook for the years 1954-'56 is called "generally bullish." Sales volume is expected to average much higher than at present, and by that time, the Survey states, the industry's current plans for expansion and diversification "should be paying off handsomely."

Salesmanship Struggles: Competition in drugs will become even more intense during the next 12 months,



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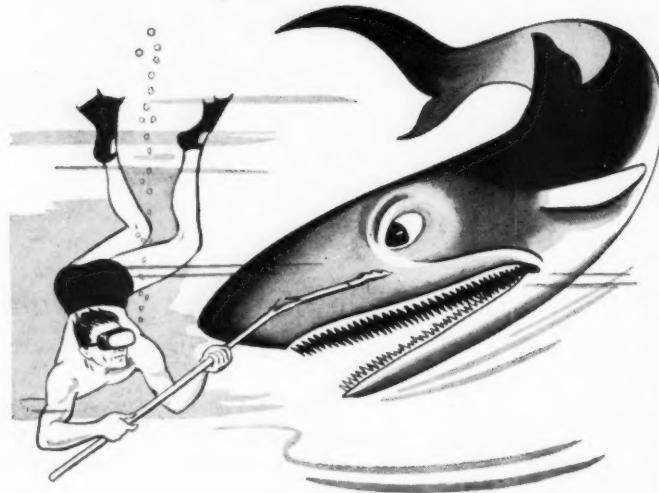
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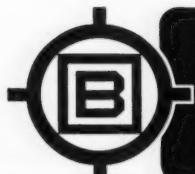


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the Survey calculates. Marketing efforts will be stepped up.

"Much of the glamor attached to stocks of the makers of 'wonder drugs' has vanished in recent months," the study remarks. It attributes this to the price war in antibiotics and unfavorable publicity about Chloromycetin. Still optimistic, the Survey analysts believe the prospects are that new antibiotics will be produced that will reestablish investors' faith in "wonder drug" stocks.

Dozen Good Buys: The 48-page booklet, published by Arnold Bernhard & Co., Inc., rates the common stock of 12 of the 41 companies as "good buys." In addition to the three rated as "especially recommended," these are Air Reduction, American Cyanamid, Bristol-Myers, Hercules Powder, Lehn & Fink, Mathieson Chemical, Minnesota Mining & Mfg., Newport Industries and Pennsylvania Salt.

Twenty other companies' stocks are classified as worth holding, as their prices are "about in line with normal projected value." Holders of stock in the remaining eight companies in this survey are told that the shares are safe to hold, but that their prices are not likely to increase during the next year.

In general, the Survey concludes, chemical stocks are interesting to the patient, long-term holder who is satisfied with a low current yield and promise of sure, steady dividends.

Pay High, Hours Few

If you keep your gaze away from the insightfully increase in cost-of-living, you can describe the chemical workers' present economic situation like this: "They never had it so good!"

Latest figures on the chemical industry show that its 739,000 hourly-paid employees are enjoying these boons:

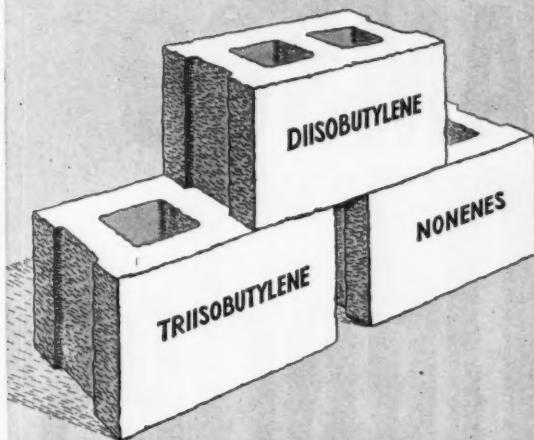
- Highest average hourly wages on record, \$1.70½ an hour.
- All-time highest average weekly pay checks, \$69.73.
- Shortest average work-week since 1949, 40.9 hours.

Chemical workers' earnings have been climbing fairly steadily ever since April of 1949, when the weekly average was \$57.45 and the hourly average was \$1.41½. The chemical work-week has been running more than 41 hours since August of 1949, and topped 42 hours in four of the intervening months.

Broad Spread in Rates: There was a spread of nearly 65¢ between the top and bottom hourly wage rates in the chemical industry in May, according to most recent figures released by the Bureau of Labor Statistics. At

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the top were the synthetic rubber workers with \$1.964, and on the other end were the fertilizer workers with a \$1.319 average.

Hourly pay averages for other parts of the chemical industry: soap and glycerin, \$1.924; industrial inorganic chemicals, \$1.874; plastics, \$1.820; industrial organic chemicals, \$1.821; paints and pigments, \$1.721; miscellaneous chemicals, \$1.719; synthetic fibers, \$1.653; drugs and medicines, \$1.594; oils and fats, \$1.396 per hour.

Continuing to lead all these "straight chemical" workers were the employees in petroleum and coal products, who averaged \$2.01½ an hour for a 37.3-hour work-week.

KEY CHANGES . .

Harry J. Collyer: To manager, technical service, Godfrey L. Cabot, Inc., Boston, Mass.

J. L. Rodgers: To manager, bonding materials department, Bakelite Co., New York, N.Y.

Robert Kirk: To manager, foreign department, Pittsburgh Coke and Chemical Co., Pittsburgh, Pa.

Howard F. Roderick: To director of sales, Michigan Alkali Division, Wyandotte Chemical Corp., Wyandotte, Mich.

Leonard S. Earl: To sales manager, Staley Paint Manufacturing Co., St. Louis, Mo.

Eugene D. Witman: To manager, agricultural chemical development, Columbia-Southern Chemical Corp., Pittsburgh, Pa.

Charles Kuhn: To sales manager, Fansteel Metallurgical Corp., North Chicago, Ill.

Frederick H. Lee, Jr.: To manager, government and industrial sales, R. M. Hollingshead Corp., Camden, N.J.

Charles A. Kreiger: To director of purchases, Sharp and Dohme, Inc., Philadelphia, Pa.

Edwin D. Plant: To manager, agricultural chemical sales, Columbia-Southern Chemical Corp., Pittsburgh, Pa.

Chester R. Herring: To sales manager, A. R. Maas Chemical Co., Los Angeles, Calif.

Paul R. Flood: To general manager, Pomona Pump Works, Fairbanks, Morse, and Co., Inc., Chicago, Ill.

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PRODUCTION . . .

Teaming Up to Sell Selves

More than 25,000 engineers met in Chicago last week in "the world's greatest convocation of engineers."

They were there to celebrate the hundredth anniversary of engineering as a profession.

But their purpose was to let the public in on the secret of "the engineer," to portray his contributions.

Officially, last week was designated as National Tie Week and National Lessons in Truth Week. But you couldn't prove it by the 25 thousand-plus engineers who swarmed into Chicago.

For them, it marked the third phase and climax of the Centennial of Engineering. And as representatives of 400,000 members of 64 engineering societies, they were on hand to whoop it up for their profession.

Heralded as "the greatest convocation of engineers the world has ever seen" and described by one distinguished engineer as "bigger than all outdoors," the gathering easily lived up to its advance billing. It drew eminent engineers from foreign countries as well as from all the forty eight states. It even drew similar statements of praise from such political opposites as President Harry Truman and Former President Herbert Hoover.

Wrote Truman in a special message: "The contribution of engineers to America is visible everywhere we go. We see it on the farm . . . in the improved transportation. Engineers helped to develop our unparalleled in-

dustrial productivity . . . have shown us how to put our rivers to work so as to check floods, yield power and convert deserts into gardens. The Centennial of Engineering will provide the American people with an opportunity to see for themselves the contributions engineers have made to American living. You have my best wishes for a



WIDE WORLD

TRUMAN: For the American people, a first hand chance.

the term "civil" was used merely to distinguish civilian engineers from military engineers. So the date was actually the start of engineering as a profession in this country and the ASCE decided to call in its younger brethren for the celebration.

The purpose of the Centennial was not a general convention in which engineers would slap each other's backs. It was intended as a grand vehicle to convey the engineer's message to the 99.7% of the country's population who are not engineers. Specifically, the goal was fourfold:

- To make known the contributions of engineers toward national progress.

- To personalize the engineer in his true role.

- To stimulate young men to study engineering in order to reduce the anticipated shortage of technically trained men for industry and research.

- To depict the role of industry with its mass production as essential to our high standards of living, its dependence on the engineer and management to maintain and increase our prosperity.

And, as Charles Kettering observed, it was the chance of a life-time to put that message across.

From All Sides: With Major Lenox R. Lohr as president, Charles Kettering as chairman of the executive committee, an executive committee and board of directors that included some of the biggest names in industry, the Centennial of Engineering was set up as a corporation. Some of the highlights of its program:

- A musical show, "Adam to Atom," that opened July 12, will run to Sept. 28. Getting a big play by the local papers and a favorable reception by



MONSANTO'S CURTIS: Chemical engineers had their day.

celebration that is successful in every respect."

Said Hoover, who is a director of the Centennial of Engineering, a not-for-profit corporation that sponsored and directed the program: "I am happy to see the engineering profession seize the opportunity through the Centennial to bring before the public the principles that have made our country great. It is the engineer who through the stimulus of free enterprise gave America its vast productivity and its highest living standards.

United Front: Originally the Centennial was scheduled as an anniversary for civil engineers only—to commemorate the day back in 1852 when ten men teamed up to form the American Society of Civil Engineers. But when the ASCE was founded,



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HOOVER: From engineers, a boost in living standards.

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PRODUCTION

drama critics, the show is playing to packed houses. Before it's over, the total attendance is expected to hit 100,000.

*A moving picture, "Miracles for Millions." It runs 28 minutes, emphasizes the role played by engineers in a competitive enterprise system. It will be distributed to schools and clubs throughout the country.

*Radio and television programs that featured engineers as guest stars.

The Big Story: Although the visitors to the convocation played down their specialties, came simply as "engineers," each branch had its own portion of the message to put across. The chemical engineers' turn came last Tuesday when Monsanto's Frank Cur-

tis led an all-day chemical session.

And even in the fast-moving company of their counterparts in civil, mechanical mining and electrical engineering, the chemical engineers could point with pride to some great accomplishments—like the synthetic rubber industry that had been put up practically overnight, the vast synthetic fiber and petrochemical industries and their role in the development of the atom bomb.

All told, during the ten-day convocation, 1,000 speakers spent approximately 500 hours telling the story of engineering. That's a lot of wordage. But then they had a big story to tell. It may be a long time before they get another chance to tell it.



NINOL MANAGEMENT*: Many combinations to be explored.

More Plant, Lower Loss

A sulfonation process installed in its plant last January looks so good to Ninol Laboratories (Chicago) that the firm will put it to work in a new plant on the south side of the city. The new plant will turn out 10 million lbs. of hydrocarbon sulfonates a year, a big boost over the 2-3 million lb. capacity of the present plant. Key to the process: sulfonation with stabilized sulfur trioxide rather than oleum.

When General Manager Jerry Krit-

chevsky† decided to crash the lush market for anionic alkyl aryl sulfonates, the compounds had already blossomed to a point where they accounted for two-thirds of the country's production of surface-active agents. With all the giants in the field, he reasoned, there wouldn't be room for a small company—unless it could offer a special product.

Searching around for such a prod-

* (L. to R.) Sanders, Kritchevsky, E. A. Knaggs (chief chem.), W. C. Colburn (consultant).

† Who steadfastly holds that he can't be "president" since Ninol is not a "company." He inherited the business in 1940 from his father, Wolf Kritchevsky, a former chemistry professor at the U. of Wisconsin.

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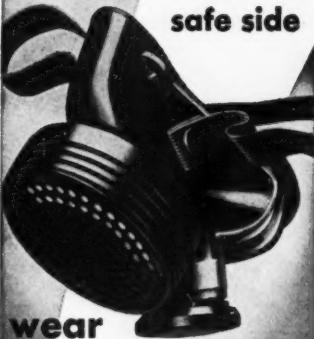
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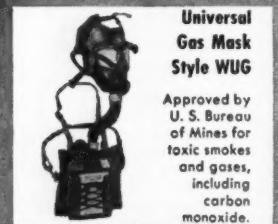
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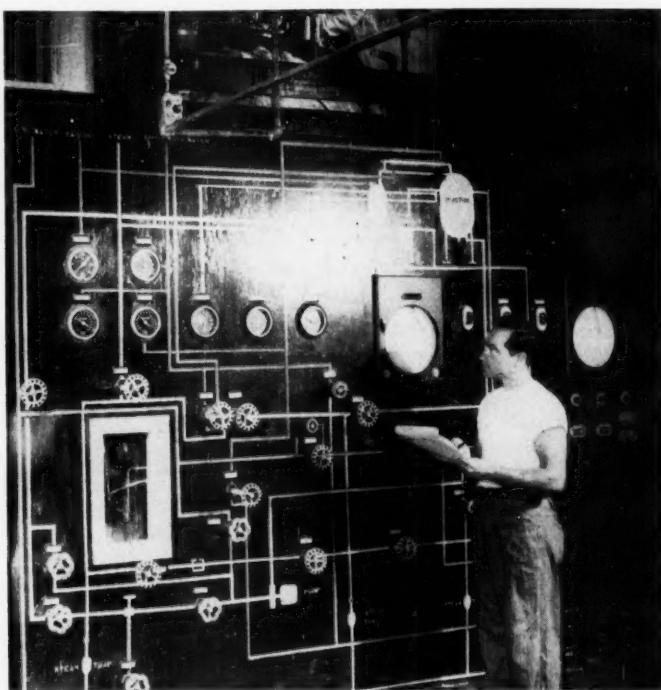
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PRODUCTION



KRITCHEVSKY MAKING TEST: A competitive edge.

uct, he hit upon the idea of salt-free sulfonates. They would have increased water solubility, thus would permit the formulation of more concentrated liquid detergents. And the absence of inert salts would allow product compounders to incorporate larger proportions of phosphates and other builders. Moreover, Kritchevsky figured cosmetic formulations and other emulsions would be more stable; oil soluble sulfonates would dissolve into a clear solution if freed of inorganic impurities.

Processing Problems: Big stumbling block to his plan was that it required a lot of equipment and processing to come even close to a salt-free product. Normally, the necessary sulfonation is carried out by reacting the hydrocarbon with a large excess of 20% oleum. The excess is necessary to drive the reaction to completion, for in the process, a mole of water is formed for every mole of sulfonate. Since some reactions will not take place below a certain acid concentration, the dilution means that more than the theoretical amount of oleum must be used. Not only does that entail a loss of materials, it poses a waste disposal problem.

If a salt content as high as 60% is permissible, the product from the

initial reaction can be neutralized as is. Otherwise the mixture is cooled and allowed to settle. Sulfonic acids rise to the top and the lower layer of spent sulfuric is drawn off.

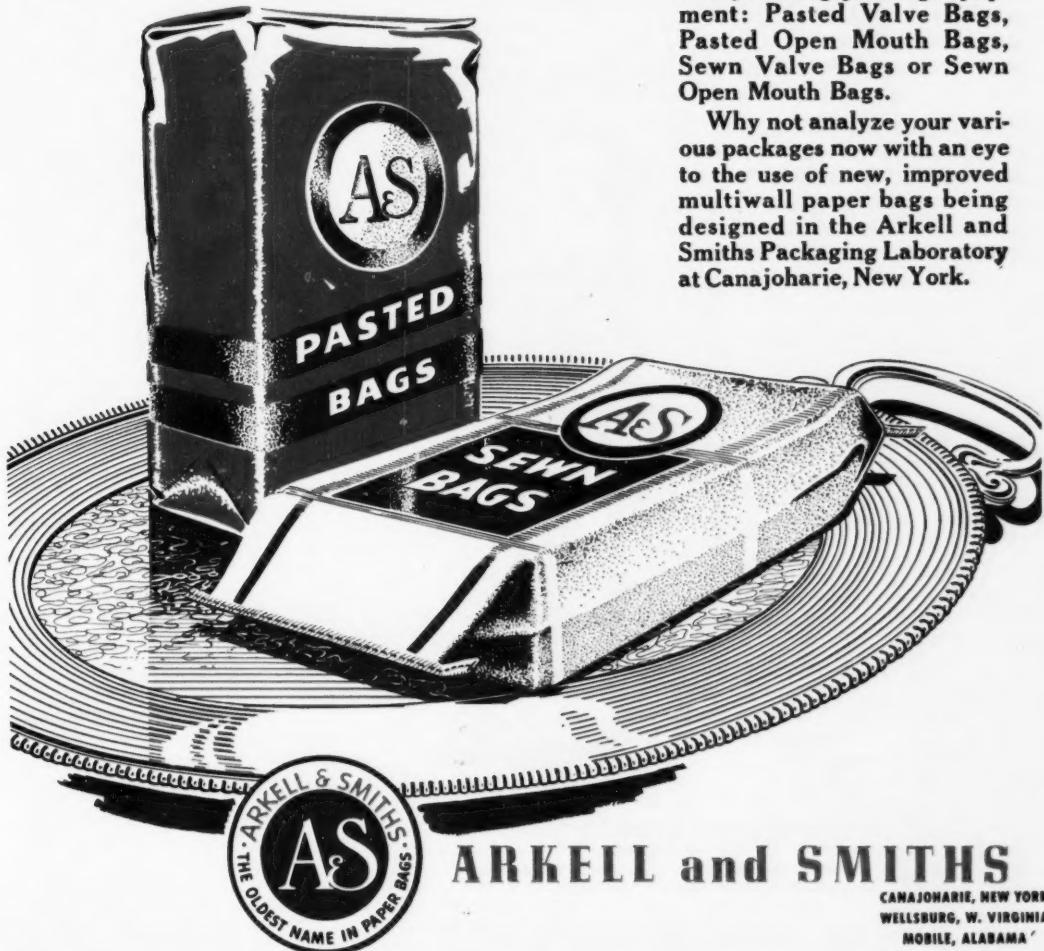
Even with the extra step, however, the product runs about 15% salt, 85-87% active ingredient. For a completely salt-free product, an expensive solvent extraction must be employed.

Easy Way: The ideal solution, of course, would be to sulfonate with sulfur trioxide. No water is formed and the product is salt-free. Only trouble is there's no way to transport the trioxide to the plant because of its tendency to polymerize to the asbestos-like, explosive alpha isomer.

Then (in 1948) General Chemical introduced its Sulfan sulfur trioxide, the gamma form stabilized by less than 0.5% boron compounds. A liquid over 17 C, Sulfan contains more than 99% sulfur trioxide.

With the cooperation of General, Ninol started experimenting, eventually developed its present process. But the job still had its difficulties. In the highly exothermic reaction, for instance, local hot spots caused charing, and discoloration presented a serious problem. Ninol solved that by getting a more intimate mixture of the reactants and by diluting them with

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PRODUCTION . . .

"certain liquids or gasses." Just what it's using, Ninol won't say. One possibility is that it's vaporizing the Sulfan, then diluting it with air or nitrogen. Another: It's dissolving the Sulfan in hexane, tetrachloethylene, pyridine or other solvent.

Designing a plant to handle the corrosive materials also posed a problem, called for a liberal use of Teflon fluorocarbon, ceramics and special alloys on pipes, pumps and packings. In addition, great care had to be exercised to prevent water from coming into contact with the Sulfan, else it would revert to the solid alpha isomer. And handling the hazardous materials required special safety precautions in the way of remote controls and automatic equipment.

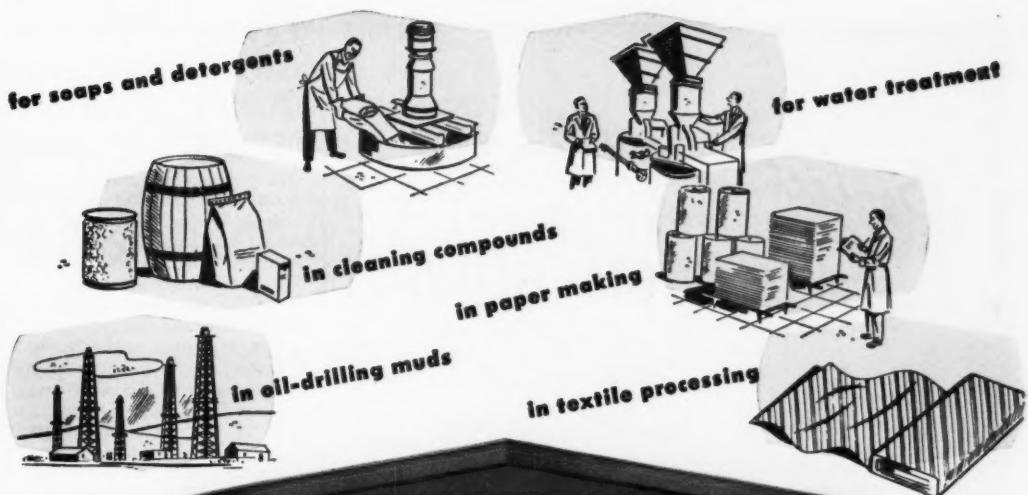
New Frontiers: Ninol is not the only firms that turns out a salt-free sulfonate, but Kritchevsky feels that the new process gives it a competitive edge. Currently, it's sulfonating dodecyl benzene and several other compounds. What's more, management feels that the surface has hardly been scratched as far as applications for the process are concerned. Says Technical Director Herbert L. Sanders "There are many permutations and combinations possible and we hope to try them all."

Sulfuric Thrift

Although most chemical process companies pride themselves on thrift, Filtrol Corp. and Shell Chemical think they've hit a new high on that score through a recently concluded agreement made in conjunction with their new West Coast plants. Filtrol will use spent sulfuric acid from Shell in its processing, recover it to make ammonium sulfate which in turn will be sold to Shell.

Filtrol is already using Shell's spent acid in its present Vernon (Calif.) natural catalyst plant, but it's all lost in the effluent. For the new \$5 million synthetic catalyst plant (at Vernon) that's slated to go on stream next fall, it will buy additional spent sulfuric from Shell, will recover acid from both plants. With fresh ammonia from Shell's a-building plant, Filtrol will convert the acid into ammonium sulfate. Shell will purchase the sulfate and distribute it through its regular channels.

The problem that led to the present arrangement started in 1948 when Filtrol expanded its natural catalyst plant. The firm soon discovered that the municipal sewerage system could not handle the increased volume of effluent. So Filtrol had to neutralize



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- Disodium Phosphate, Anhydrous
- Disodium Phosphate, Crystalline
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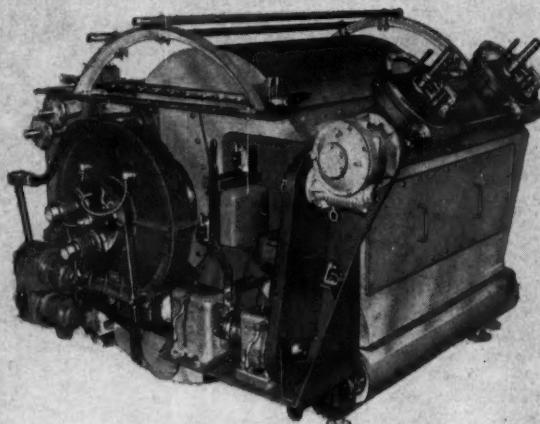
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about 3.5 million gal. a week of the highly acidic material, remove most of the sulfate and truck the liquid residue to a main sewer, 3 mi. away.

A preliminary investigation showed that it might be possible to produce synthetic alumina and magnesia catalysts from the effluent. Feeling the market could absorb any product that resulted, Wright Gary, president of Filtrol, decided to go ahead.

Briefly, the process that was developed involves concentration of the effluent to a strong mother liquor, then a treatment with sulfuric acid in special equipment. Process changes in the natural catalyst production were made to produce a stronger effluent.

Both Benefit: As Gary sees it, both companies stand to gain from the arrangement. Filtrol eliminates a waste disposal problem, recovers valuable by-products and—through sale of the sulfate—receives help in amortizing the capital investment in a by-product plant. For Shell, to all practical purposes it adds up to an increased capacity of ammonium sulfate—without a corresponding hike in investment.



At a Distance

A SHAKEDOWN RUN by remote control on a plant 9,000 mi. away is the ambitious aim of D. F. McCarthy (right) and his assistant, C. T. Andrew of Vick International, Inc. Actually, the feat is not as impossible as it sounds for the plant—located in the Philippines—will use standard Vick processes to turn out the complete line of Vick Chemical Co. Pouring over an exact duplicate of the plant scaled down to desk size, McCarthy and Andrew in New York merely hope to spot any "bugs" in construction, warehousing or layout of equipment.

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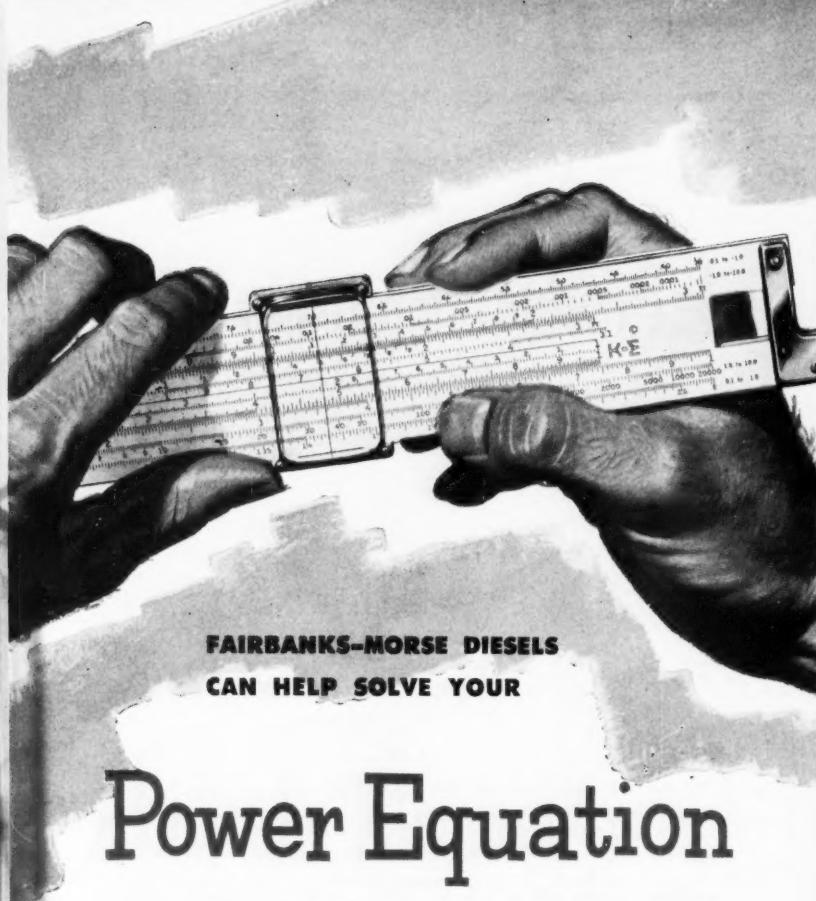
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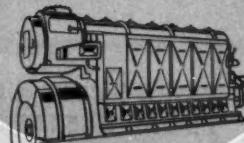
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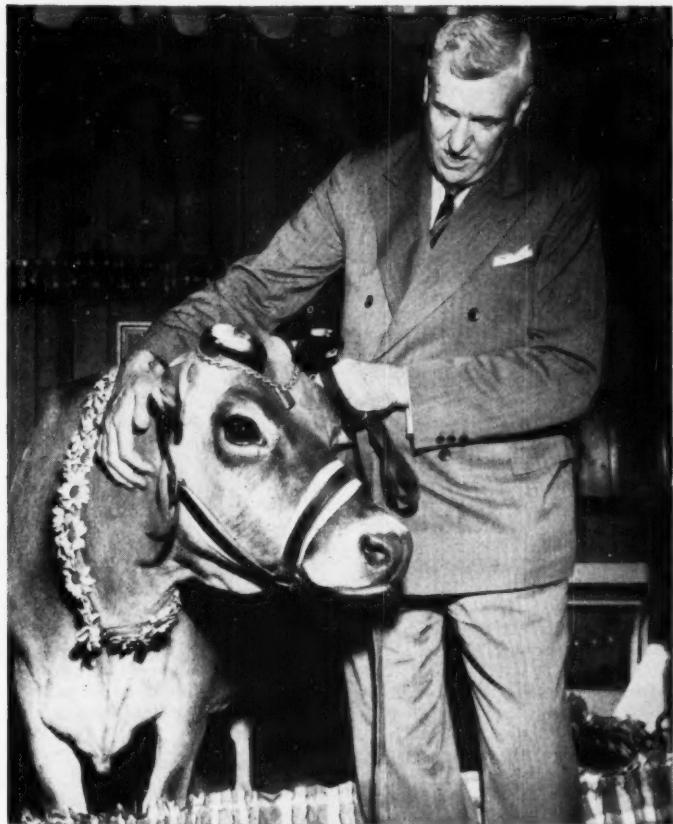
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BORDEN'S LEICESTER: Elsie was just the start of it.

WIDE WORLD

Beyond the Milkcan

In California's Los Angeles County, a brand new plant is now turning out urea and phenolic resins. Within weeks it will be producing resorcinol at a 1-2 million pounds per year clip. It was only two months ago that the same manufacturer brought in a new \$1 million plant in Alabama to produce formaldehyde, hexamethylene-tetramine, and synthetic resins.

The company: dairyland's giant Borden organization. The inference: America's milk industry must be added to the growing list of industrial groups which are planning a profitable diversification into chemicals.

Right behind Borden's lead comes the Sheffield Farms Co., a division of National Dairy Products Corp. In Oakdale, Long Island, National Dairy maintains an active research laboratory staffed with chemists. From their work will come new products for

Sheffield to add to its present line of casein and lactate chemicals.

In the case of Borden, however, the company has travelled far beyond its milk-products beginnings. As one Borden official put it: "For years the 'chemical' in our Chemical Division name was a misnomer, but now with formaldehyde and resorcinol for sale, we're ready to roll."

A Casein Start: Heading up Borden's chemical operations is a Goliath-sized Britisher, Bill Leicester (pronounced as "Lester"). For over a quarter of a century he has been leading Borden steadily toward its present destination. His chemical start was with the Casein Co. of America, one of the earliest casein producers in the U.S., having been incorporated in 1900. By 1929, when Borden bought it out, "Casco" had become a household trade name. With it, Borden ac-

quired a steady outlet for its surplus skimmed milk—at that time a perennial dairyland headache.

Although casein is now only one of Leicester's several chemical facets, he still sees a continuing series of new uses to which this versatile material can be put. One recent development, for instance, is a casein glue for beer-bottle labels which will resist the water-and-ice baths of the dealer's cooler, but which will release the label immediately when exposed to the bottling plant's steam line.

Paper coating is still the largest outlet for casein products, followed by adhesives, paints, and plastics, in that order. A Casco glue, for example, is used by many tobacco manufacturers to seal cigarette seams, and casein buttons are holding their own.

Plywood Bond: But the casein use which first prompted Borden to bypass the cow was in the field of plywood adhesives. The company pioneered in introducing urea-formaldehyde resins to the furniture and hardwood plywood industries (other glues are better for the construction of fir plywood). These were introduced in 1937, and by 1940 Borden was manufacturing them at its Bainbridge, N.Y., and Seattle, Washington, plants.

Another expansion program in 1946 involved a new plant at Springfield, Oregon, to produce formaldehyde, urea-resin and phenolic-resin glues for the West Coast plywood industry, plus a new unit at Kernersville, N.C., to make urea-resin adhesives for southern furniture and plywood.

This drift toward synthetic-based glues, resins, and plastics culminated in the 1947 purchase of Philadelphia's Durite Plastics. Borden entered thereby into the business of making a wide line of molding compounds, bonding resins, and lamp-basing cements. Durite had itself pioneered in the development of phenol-furfural resins.

Chemicals for Sale: This year's expansion program marks a turning point for Borden. It will now have basic chemicals for sale. The new plant at Demopolis, Alabama, will have a salable surplus of formaldehyde and hexamethylenetetramine. And the same situation will exist with resorcinol at the Dominguez, Calif., plant now being completed.

Leicester has high hopes for his company's resorcinol venture. Even though the plant will produce an estimated 10% of the nation's total resorcinol production, he still considers it to be only a "glorified pilot plant" operation. He feels that the chemical's "trigger effect" on the curing of phenolic resins will eventually make it

DISTRIBUTION . . .

one of the most important ingredients in the adhesive and plastic compounder's store room.

Riding a Wave: One of the brightest spots in Borden's phenolic-resin future is in the field of shell moldings for the foundry trade (*CW*, August 23). This booming utilization provides an interesting case of research in one field proving to be of value in another. During the milk glut of the mid-30's, Borden had had the Mellon Institute do some basic research on possible outlets for dry milk. One of the most promising uses which the scientists developed was the idea of employing dry milk as a binder for molding sands.

Borden continued the research along this general line, in 1939 coming up with the first synthetic resin for core sands. As a result, the company had a running start on its competitors in the development of the shell-mold technique.

Despite Borden's new entry into the distribution channels for basic chemicals, Leicester still feels that his company's further development will mainly take advantage of what he calls its "skill in compounding." In other words, it will continue to concentrate on offering selected industries a completely compounded product, ready to use, rather than developing further chemical raw materials. But that's still a long way beyond milk.

Why Export Companies?

The news this week provides two more indications that the U.S. alkali industry, worrying about overproduction at home, is getting set for a major push on the world markets. One item comes as a report from Westvaco—that it is laying the groundwork for a new export division. The other is an accomplished fact: Diamond Alkali has completed the formation of two corporate export subsidiaries.

Taken together, these two moves mean that a clear majority of the former members of the now defunct U. S. Alkali Export Association are actively engaged, as individual companies, in the race for foreign dollars. Dow, Mathieson, and Columbia-Southern have already been particularly active in this arena.

Examined in the light of what seems to be the normal evolution process toward international operations, Westvaco's departure can be taken as being a close step behind Diamond's. Heretofore Westvaco has worked through several New York export houses. The new division, to be headed up by Bob Clark, will augment this by dealing directly with chemical agents and distributors abroad.

Diamond, on the other hand, has passed through the export-division

stage and has now moved on to the export-subsidiary level.

Sam Savage, president of the new companies, is proud to admit that the expanding volume of Diamond's export sales is what warranted this corporate move. As director of export sales for the former division, he has been handling this phase of Diamond's activities ever since the disbanding of the Alkali Association. Before that, he had been doing the same sort of work for the alkali company's Martin Dennis subsidiary. As a matter of fact, the Martin Dennis network of overseas agents (for tanning chemicals) is being used as the nucleus of Diamond's organization.

Tax Dip: It isn't difficult to determine why Diamond has taken the trouble to weave its way through the legal tangles of setting up its new corporations. The latter will, of course, enjoy the prestige of becoming established members of the international-trade community, thereby enhancing the parent company's growth as a globally known chemical manufacturer.

But compelling reasons can also be found in the U. S. Internal Revenue Code. In fact, Diamond's parlay provides a good illustration of the tax advantages to be realized from export



West Coast Granulated, On the Move

INDUSTRIAL SUGAR USERS in California are now able to obtain large bulk shipments via these twenty-ton hopper-type truck trailers. The California and Hawaiian Sugar Refining Corp. is putting the final touch-

es on its new \$200,000 bulk handling installation. The firm claims that the facility, at its Crockett, Calif., plant, is the first Western unit designed expressly for bulk shipments. Industrial users are becoming increas-

ingly interested in taking their sugar in this form. Savings (through a lower unit cost and less handling) can amount to 40¢ a hundredweight when compared to the use of 100-pound bags.



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subsidiaries and the additional benefits coming from the creation of two such organizations—one handling the Western Hemisphere and the other covering the rest of the world

Section 109 of the code holds the key to these tax factors. It provides a definition for what tax lawyers call a "Western Hemisphere trade corporation." It says, in part, that this term means "a domestic corporation, all of whose business is done in any country or countries in North, Central, or South America, or in the West Indies, or in Newfoundland, and which satisfies the following conditions:

"(a) If 95% or more of the gross income of such domestic corporations for the three-year period immediately preceding the taxable year (or for such part of such period during which the corporation was in existence) was derived from sources other than sources within the United States; and

"(b) If 90% or more of its gross income for such period . . . was derived from the active conduct of a trade or business."

Corporations which fit within this definition can reap some rather massive tax benefits. These three are the major ones:

- 30% credit on both normal taxes and surtaxes
- Exemption from the excess profits tax
- Entitlement to foreign tax credits.

These can add up to substantial savings. In fact, it has been demonstrated that a domestic manufacturer with a sufficient export sales volume can often save nearly half of its Federal tax burden on such sales—provided that it can properly establish a WHTC subsidiary to handle such exports.

Moreover, tax advantages accrue from the simpler device of forming a separate corporation to handle sales to countries other than those covered by the WHTC definition. Such companies are excused from the excess profits tax—a welcome relief.

Diamond's planners have taken advantage of both types: its Diamond Alkali Inter-American Corp. will fit within the WHTC framework, and Diamond Alkali International, Inc., will cover the other areas of the world.

Lawyers' Dream: The Revenue Code's definition of a WHTC organization is unfortunately vague—it forces the corporation lawyers to try to second-guess the Treasury Department. Certain salient points, however, are now generally agreed upon. In the first place, there is no confusion over the facts that the corporation must be organized in the U. S. and that it



DIAMOND'S SAVAGE: A company to fit the job.

must operate in the clearly designated geographical areas.

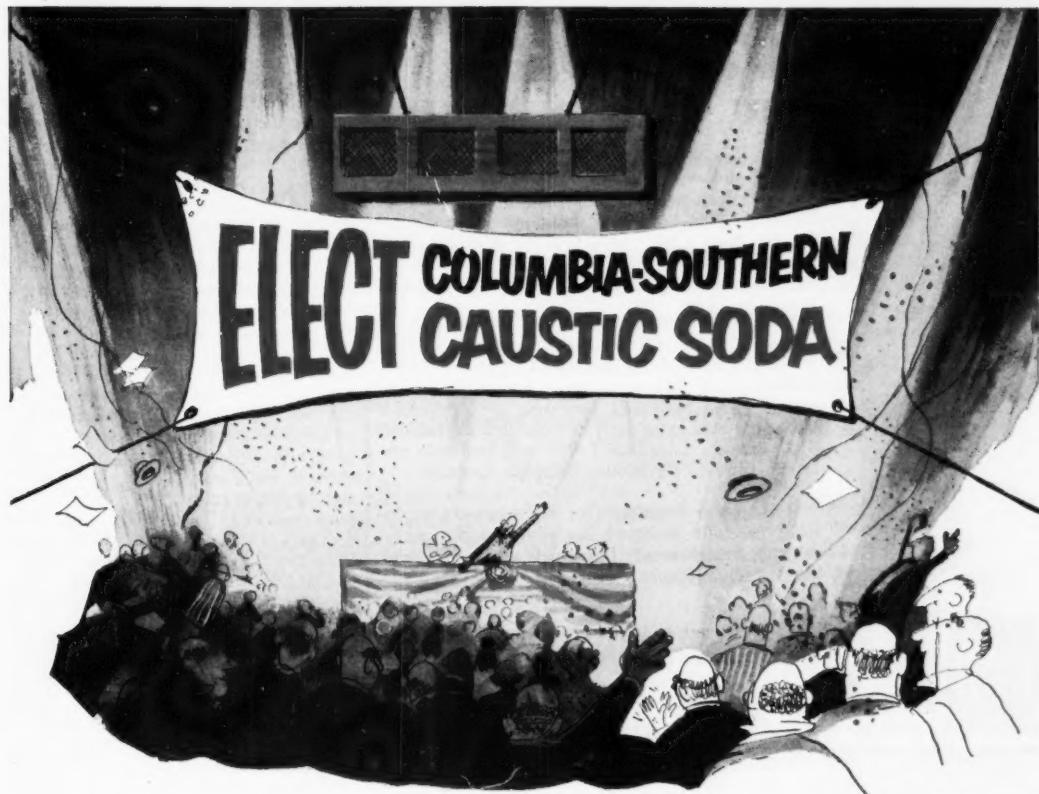
But nowhere in the section, or for that matter in the Code, does it spell out what is meant by "gross income . . . derived from sources other than sources in the U. S." or by the phrase "active conduct of a trade or business."

The lawyers now feel that passage of title is the commercial step which best identifies the "source" of income. So long as the material legally passes from the seller to the buyer at a point outside the U. S., they regard the condition as met. This obviously counts out any FAS American port arrangements since the seller must hold title to the goods until they reach a foreign location.

There are several ways to accomplish such an end. One method is to ship the material to a foreign branch office of the WHTC, with the branch handling the direct sale of the product. A second way is to utilize sales agents overseas who have the facilities to take in consigned stocks. Again, the seller holds title until the material moves out of the agent's warehouse. The third, and simplest, is to quote on an FOB-foreign-port basis, having the contract call for payment against draft on arrival of goods.

In all of these cases, the WHTC is responsible for the product during its passage overseas and must handle the details of insurance, etc.

The second stumbling block, the "active conduct of a trade or business," is less easy to explain away. It does not necessarily mean that the WHTC must have trade representatives actively roaming up and down the continent, but it also clearly indicates that the



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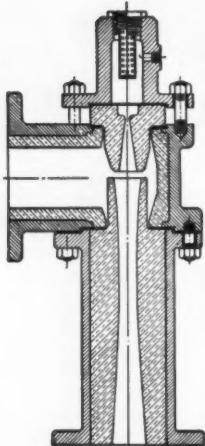
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WHTC cannot be just an American dividend-receiving front office for a South American operation.

Long-Range Intent: Although no two lawyers agree on the most apt level of "activity" between these two extremes, there is complete agreement that the corporation must clearly indicate a firm, long-range desire to establish itself in inter-American trade.

On this test, Diamond's Savage is sure that his new Inter-American Corp. can pass with ease. He reports that he is receiving "wonderful support" from his management in gaining a secure niche for his overseas customers in Diamond's production schedules. He has no fear that foreign consumers would be squeezed out of the picture should commodities again become in short supply. His allocation may be cut, of course, but only at the same percentage rate applied to other domestic Diamond sales managers. With this help, Savage is confidently planning ahead for a continued increase in his company's export sales.

Illiterate Labels

Efforts to standardize the labelling of dangerous materials (CW, August 2) have reached the international level. The Chemical Industries Committee of the International Labour Office, meeting in Geneva late this month, will study a labelling proposal.

The key to ILO proposal is the use of wordless labels—which even illiterate workers can learn to recognize. Some of the label designs include a lighted match for inflammable substances, an exploding grenade for explosive products, and a corroded hand for corrosive chemicals.

"We Want It": Dr. Mohamed Abdel Salam El Ayadi, spokesman for seventeen Egyptian doctors and scientists who are on their way back home after a one-month non-official tour of America, spoke right out when asked about the DDT plant which the WHO and the UN want to build in his country (CW, May 24). "We want that plant," he said, casting aside any consideration of world-wide DDT supply and demand. For doctors in disease-ridden Egypt, preventive measures, such as the use of DDT, are emotionally important.

Clinic Comeback: Two years ago, shortly after the start of the Korean conflict, the Chemical Salesmen's Association decided to discontinue its annual "Sales Clinic."

But it will start again—on October 28, at the Hotel Commodore in New York City.

THE Chementator

Oxidizing with ozone

NEW PROCESS—Ozone is being used more and more in chemical processing to carry out difficult oxidations. Not only is it used in the manufacture of cortisone, but Emery Industries, Inc., of Cincinnati will use ozone to oxidize oleic acid.

Emery has just been given the green light by the government to start construction of a new \$2 million plant. It will be the world's largest single installation for the production of ozone. The ozone will be used in a new process, the result of joint research by Emery and Welsbach Corp. of Philadelphia, for oxidation of oleic acid.

PRODUCTS—This new plant will greatly increase Emery's output of azelaic and pelargonic acids, the two products that result from the oxidation of oleic acid. Emery is now the sole producer of these two acids.

Now, because of the efficiency of the new ozone process, larger volumes of these acids will be produced, and at lower cost. In fact, azelaic acid will be next to the cheapest higher molecular weight dibasic acid on the market today. Likewise, pelargonic acid will be the cheapest monobasic aliphatic acid of its type.

ADVANTAGES—In addition to its increased efficiency, the new ozone process has other advantages. It eliminates the corrosion problem encountered in the present chromic acid oxidation. It gives higher yields of purer products. It's more versatile. In fact, it's expected that Emery's new unit will be able to use a broader selection of raw materials; this will mean a greater variety of end products, especially as other uses of this unique oxidation process are developed.

MARKETS—Interest in this development is heightened by current investigations in the use of dibasic acids and their esters in synthetic lubricants for military and civilian uses. Such lubricants may consume much of the output of Emery's new plant.

Meantime, the use of azelaic acid in alkyds, as

well as in plasticizers for vinyls, celluloses and synthetic rubbers, can be expected to expand as costs come down. The markets in alkyds and plasticizers have been proved in the years Emery has operated its chromic oxidation plant. Only limited availability and relatively high price have curbed expansion in these fields. Now it will be possible to get the low-temperature performance of many esters of azelaic acid even in relatively low-cost plastic materials.

Emery's research points to growing use of azelaic acid as a raw material for polyamides of the nylon type. In polyamides, azelaic promises superior water resistance.

Pelargonic acid already has important uses that will grow as more of it comes on the market at lower cost. For example, more pelargonic will be used in flotation—where it's highly efficient but has been too costly up to now.

Another possibility is increased use of pelargonic acid in perfumes and fine chemicals. Actually, the name "pelargonic" comes from a botanical term associated with geranium oil.

SOURCES—Amid current world tension, it's reassuring to know that oleic acid, the raw material for production of azelaic and pelargonic acids by the new ozone process, comes from animal fats and tallow. These are available in the U. S., and are currently in surplus supply. On the other hand, the closest counterpart of azelaic acid, one of the products, is sebacic acid, which is derived from castor oil, an imported raw material.

PRODUCTION—Emery's new plant is expected to be in operation within less than a year. By mid-1953 it will certainly be turning out azelaic and pelargonic acids by the new ozone process.

Nothing more need be said about

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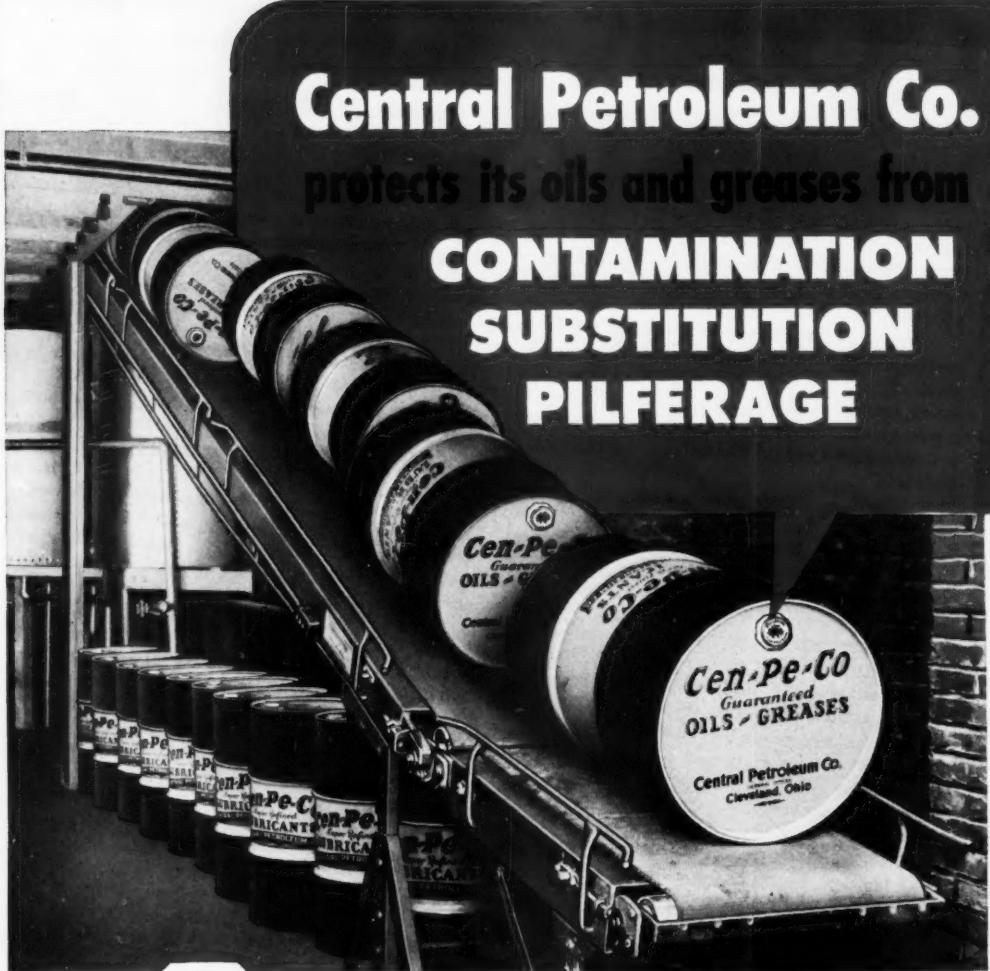
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SPECIALTIES . . .



NACA DIRECTORS: Fifteen officials to lead in the twentieth year.

Jersey Roundup

A pest-poor year, and production capacity upped 50-200% have left agricultural chemical producers with heavy inventories. That's the major woe at New Jersey producers' confab.

Demand for increased farm productivity, better export chances, frame brighter picture for the future.

With a sad look toward their big carry-over inventories of pesticides, and a disturbed glance at the Delaney Committee and the foreign insecticide plant problems, agricultural chemical producers got together this month to share woes, and bolster hopes for the future.

The occasion was the nineteenth annual meeting of the National Agricultural Chemicals Association at Spring Lake, N. J.

The troubles, in addition to those of excess stocks, concerned everything from product liability to export restrictions and being the end-man on the farmer's bills-to-pay list.

The cheerful angles for the future lay in the inevitable requirements for agricultural chemicals' aid in feeding our rapidly increasing population, and the hope for a better export picture. Consensus is there'll be no trouble getting export licenses next year for any of the pesticides except sulfur formulations and copper sulfate.

Look Ahead: To fill what one speaker termed the "fifth plate," there must be increased farm productivity—and it was pointed out that the agricultural chemical aid that has boosted crop production 50% in the past 20 years

will be required to meet the needs for 25% more food by 1975.

Supporting the views of some producers that the major job of the farm chemical maker is really selling to the farmer, it was brought out that only 60% of the farmers now use fertilizers; and that roughly 4% of the farm produce sales is spent in fertilizers and pesticides.

Export Angles: With NPA's P. H. Roggins warning that the pesticides export business cannot be considered merely as a "convenient method of siphoning off surpluses," a panel at the conference covered the general export picture.

Concerning the building of foreign DDT plants, it was brought out that national pride and policy influence a country like Egypt to construct its own DDT plant (with U.S. aid), although the rather bewildering fact remains that such a plant can never match U. S. made material pricewise.

The problem of restricted insecticide use, as hinted at in the Delaney Committee reports, was discussed. Part of the cry for restrictions has resulted from overemphasized reports about the danger of insecticide residues, reports by people unaware or

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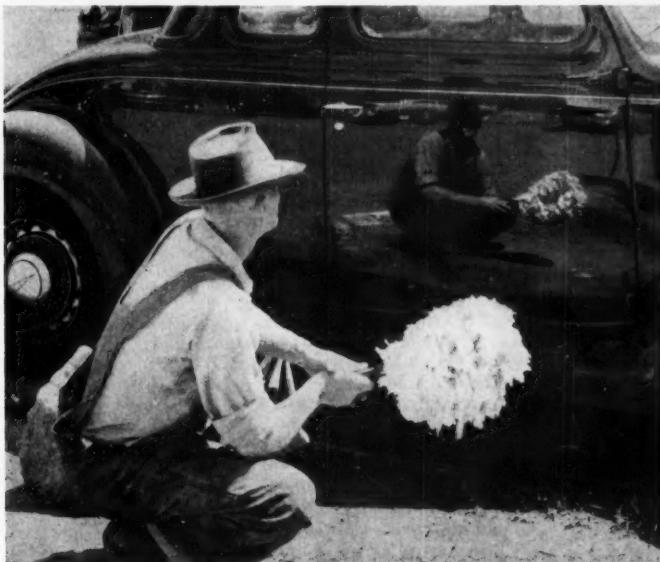
SPECIALTIES . . .

unthinking of the vital role insecticides play in food production.

Other problems, some of which affect agricultural chemical makers less directly, were underscored. One such was the slowly decreasing effectiveness of present chlorinated insecti-

cides; another, the approaching serious shortage of technical personnel.

At what was probably the largest meeting in the NACA's history, close to 450 farm chemical representatives met at the Essex & Sussex Hotel, elected new officers and directors.



DUSTING OFF AN OLD ONE: Still shining after 17 years.

AUTO SPECIALTIES: One from the West.

Despite the impact silicones have made on the auto polish business, many producers of car waxes have stuck by their pre-silicone formulations or have worked out new ones. Now set for manufacture in Salt Lake City is Groom Products and Research's Car Groom Protection—a finish made with no silicones, mineral waxes, or resins.

The 10-oz., two-treatment Groom product will sell for \$2.00 through service stations; fleet care quantities are available too. Groom, a small producer of auto specialties and the like, plans to have Douglas Chemical Co. (Kansas City, Mo.) as producer for Eastern distribution.

Results of the most recent trial of the much-tested Car Groom have just come in. It was applied to the delivery fleet of the Holsum Baking Co. (Salt Lake City), and the bakery's experiment shows that time to clean and polish vehicles is about half that required for previous treatments; washing frequency was also halved.

Advantages, according to Groom, lie in the high melting point, hard wax it has developed. President John U'ren,

doesn't want to say much more about his patent-applied-for process that he regards as the firm's hole card.

If the Holsum test is Car Groom's most recent, the longest and hardest test is on an old car U'ren calls "the bug." A '35 Ford coupe, it has received one coat of the polish per year for 16 years, and has never been garaged, according to U'ren. Cleaned only twice in ten years, (but frequently dry-wiped) it still has a good finish (*see cut*).

With Car Groom, U'ren is getting into a highly competitive field. It must fight with well-advertised products like the Simoniz's recently introduced Bodygard, silicone-containing, but not promoted as a silicone polish, plus the consumer-known products of Johnson, Du Pont, Boyle-Midway, and numerous others. Not touted as a "wipe on-wipe off" finish, Groom eyes the trucking fleet, fire-department portion of the vehicle specialty field in particular.

U'ren admits he's been slow about bringing his new polish to the commercial stage, but says raw material shortages, and finding backers to ex-

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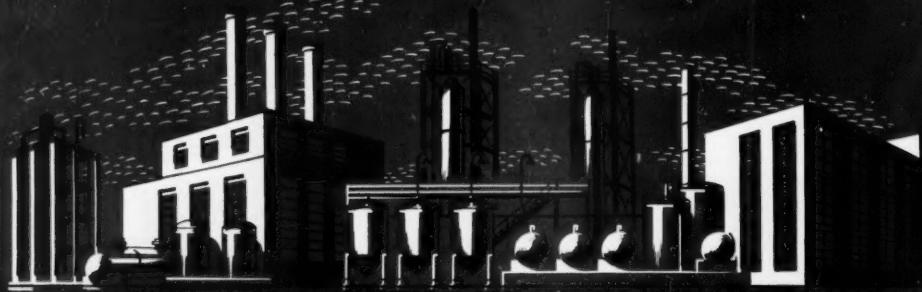
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SPECIALTIES . . .

pand facilities for full-scale consumer output has held things up. Now plans are set for Car Groom to shoot for a slice of the multimillion dollar auto specialties business.

Tar Heel Tempest

While pesticide makers were conferring in New Jersey, touching lightly on product liability and insecticide residues, a storm over these matters was brewing in North Carolina. (CW Newsletter, Sept. 13)

Trouble began when Dr. Roland Mobbs, Aberdeen, N. C. physician climaxed his five year investigation of insecticides. In a major story in the *Greensboro, N. C. Daily News*, Mobbs declared insecticides such as DDT and BHC are periling the health of American people, that many of these newer compounds are inadequately tested.

Mobbs charged he himself had found several cases of serious illness, and one death which could be blamed on insecticides; that a prominent peach packer had refused to buy any more Tar Heel peaches because of residues.

Quick to answer Mobbs' charges were officials of state and federal agricultural bureaus, other authorities.

One such rebuttal came from Dr. Fred C. Bishop, assistant chief of the Bureau of Entomology and Plant

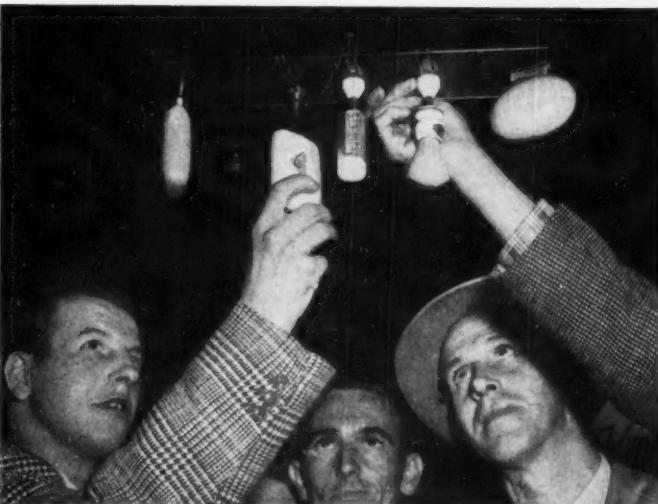
Quarantine, in Washington, D. C.

Bishop minimized the possibilities of toxic residues in food, saying no cases of such food poisoning had been reported to the government. Admitting the dangers of careless handling of DDT, lindane, and parathion—dangers well recognized and publicized by insecticide makers—Bishop pointed out that from a residual standpoint, those chlorinated compounds were far less toxic residually than the previously used lead arsenates.

Rally Round: But Mobbs was soon joined in his "crusade" by Dr. H. E. Whitmire, St. Louis consulting chemist and former member of the National Bureau of Standards. Whitmire said insecticides were the cause of a variety of maladies, from "false polio" in North Carolina, to aborting in cattle in Texas. He also said "no American insurance company will write more products liability or personal liability for insecticide manufacturing plants," a statement that a CW check with insurance companies could not verify.

Accepting what he regarded as a challenge from Dr. Mobbs, Dr. J. W. R. Norton, North Carolina state health officer offered to accompany Mobbs in visits to any Tar Heel county, to check on insecticide poisonings.

Last week, as this was being writ-



WIDE WORLD

No More Soft Soap

MAGNETIZED SOAP that can be placed where it will drain readily is shown at the annual inventor's fair in Cologne, Germany. Franz Fuehrer (left) devised the way to make a bar of toilet soap—as well

as numerous other toilet items—around a magnet, so that it can be made to stick to the shelf as shown. It's a cinch the idea won't do for floating soaps, but it should cut down on soap slushing and softening.



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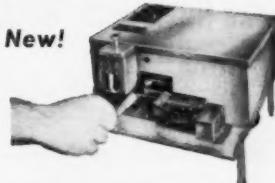


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SPECIALTIES . . .

ten, reports of the continued battle came in, with more farmers, pesticide dealers and health officials expressing a willingness to participate in any research on the insecticides, so long as it is "scientific research, not a crusade to throw agricultural production back 50 years."

Philadelphia Scrap

"Our claims have been more conservative than exaggerated, as charged," retorts a spokesman for Henry A. Dreer, in reply to the recent FTC complaint lodged against the Philadelphia firm's soil conditioner Fluffium (CW Newsletter, Sept. 13).

The Federal Trade Commission complaint, one of the numerous reactions to this season's sometimes flamboyant introduction of soil conditioners, charges among other things:

- The amount of Fluffium necessary to condition soil is far in excess of the amount advertised as suitable.

- That merely sprinkling the conditioner on, as advertised, won't properly treat the soil—it must be mixed or worked in.

- That Fluffium has been tested by 10,000 people, or will last indefinitely.

Dreer's has prepared extensive rebuttal for the FTC charges, but CW learned that there is considerable hope that the matter will be settled long before it comes up in court October 27.

Much of Dreer's research on soil conditioners has been directed by Dr. Phillip Sadler (Sadler & Sons, Philadelphia chemical consultant), who appears to have a raft of evidence to support Dreer's claims.

Dreer's previously said that it had sold over 100,000 gals.* of its material on a money-back basis, and has plenty of laudatory letters about Fluffium.

Dreer's product, one of the first to hit the market, and one of the most extensively advertised (CW, May 24), was for a time made by Wilson Dye Works (Sayreville, N. J.). Several months ago, Dreer's contracted with a Philadelphia firm to make its sodium polyacrylate.

The move against Fluffium has followed a general rumbling in federal and state circles about blatant promotion of the artificial humus-makers. Loanium, a conditioner-combined-with-fertilizer, was recently banned from sales in Virginia.

Hot Trail: Entomological research with "hot" carbon continues: Probers of the USDA and Oregon State Col-

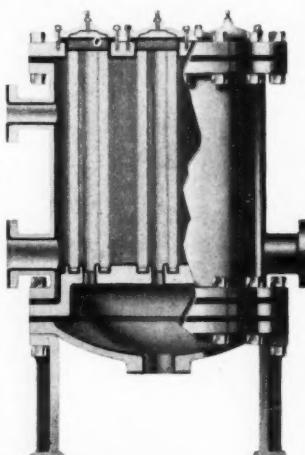
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Bulletin 430 shows flow diagrams. Write for a copy.



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* At better than \$9 per gallon. Plainly, though no company has released precise sales figures, the soil conditioner business is already a multi-million dollar one.

SPECIALTIES . . .

lege use the marked atom in DDT to test resistance of mosquitoes to the insecticide—some species can absorb more than six times the amount of DDT than non-resistant types can.

Maintenance Line: S. C. Johnson's Beautyflor Traffic Wax, a clean-and-wax floor treatment introduced last February to the retail trade is now offered in maintenance lines. Claimed to eliminate soap and water scrubbing, it is a fast drying buffing wax.

Bluegrass Bugkillers: Eleo Products, Inc., Ashland, Ky., is a new firm recently capitalized at \$10,000 to manufacture insecticides.

Spreading Out: Monsanto Chemical recently purchased Detergents, Inc. (Columbus, O.), makers of the automatic washer detergent All, along with its affiliate, Eastern Packaging.

Santophen 1 solutions, liquid germicides and fungicides of 75% Santophen 1 and 25% isopropanol (weight basis) are now commercially available from Monsanto.

Fiber Lube: Now offered by the Carolina Aniline & Extract Co. (Charlotte, N.C.) is a new 50% nonionic microcrystalline wax emulsion. Tabbed Silver Lube R. L., it has a pH of 6, is said to give smoothness to fabrics.

Shave Simplifier: Whiskoff, a new beard-wilting already used in Europe will be sold by the Whiskoff Cosmetic Mfg. Co., newly organized Detroit firm.

Aims for Autos: Ames Chemical Co. (Inkster, Mich.) has recently incorporated, will make and sell automobile specialties under its own name.

Laundry Line: A line of cleaners and laundry compounds will be offered by Tetrosol Chemical Co., Detroit, Mich.

Plastic Popout: A silicone based mold release compound for plastics is Chemical Development Corp.'s (Danvers, Mass.) C. D. Mold Release A.

Antimold Paint: Another series of paints utilizing Scientific Oil Compounding Co.'s Cunilate (solubilized copper-8-quinolinolate) has been introduced by the American Marietta Co.'s Valdura Div. (Kankakee, Ill.). These paints, which can be applied to moist surfaces, and have shown high anti-fungus qualities, are sold under the names Valdura Damp Surface Undercoater and Valdura Damp Surface Enamel.



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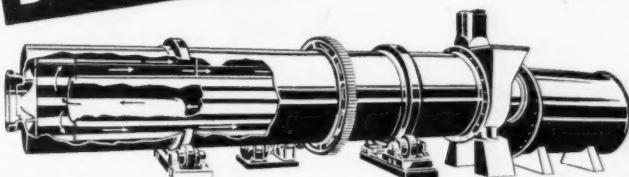
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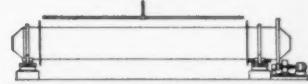
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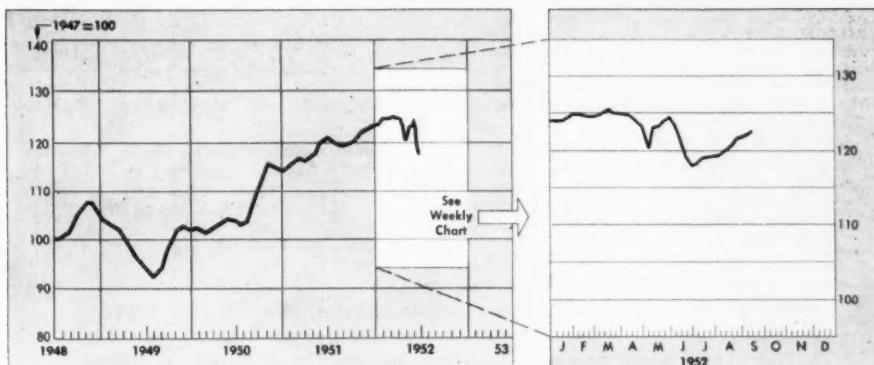
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M A R K E T S



CW Index of Chemical Output—Basis: Total Man Hours Worked in Selected Chemical Industries

MARKET LETTER

Thiokol (liquid polymers) consumers have been given the green light to go ahead and include their civilian as well as their military requirements in filing for October allotments.

Expected substantial inventory by the end of this month, due to Thiokol Corp.'s increased production, puts NPA in a "position to give consideration to allocating these polymers for civilian use."

Thiokol, however, remains under "controls" (Schedule 5 to NPA Order M-45), along with methylene chloride. But chances are Thiokol may be removed from the Government's allocations list in the not-too-distant future. Reason: It is on the way to fulfilling at least one prime requirement for "decontrol"—increased supply.

Some chemical manufacturers, chafing under government price curbs, were told flatly last week that chemicals generally are so important to the economy and to the defense effort they are not eligible for decontrol "to any important extent" under OPS's current standard.

But Director of OPS's rubber, chemicals, drugs and fuels division, E. E. Fogle, speaking before the Synthetic Organic Manufacturers Association, gave this assurance: We (OPS) certainly do not want to continue control for control's sake.

More triple superphosphate—some 825 tons/day—will be added to the nation's supply. The report that Crescent Chemical Co. will build such a plant at La Porte (near Houston, Tex.) has just been confirmed by CW.

Where Crescent will get the sulfuric for its phosphate is still a big question. At least one major supplier says it cannot meet Crescent's demand for the acid. But a spokesman for the future triple phosphate maker assures CW the company will get the sulfuric it needs.

One speculative possibility: Will Crescent build its own acid plant?

There is enough ethyl alcohol to supply consumers' demands—and these demands are getting higher. At least one fermentation alcohol

MARKET LETTER

WEEKLY BUSINESS INDICATORS

	Latest Week	Preceding Week	Year Ago
CHEMICAL WEEK Output Index (1947=100)	122.1	121.8	120.7
CHEMICAL WEEK Wholesale Price Index (1947=100)	102.3	102.5	107.1
Bituminous Coal Production (daily average, 1,000 tons)	1,822.0	372.0 (int.)	1,860.0
Steel Ingot Production (1,000 tons)	2,115.0 (est.)	2,093.0 (act.)	
Stock Price Index of 14 Chemical Companies (Standard & Poor's Corp.)	242.2	244.5	258.2
Chemical Process Industries Construction Awards (Eng. News-Record)	\$7,244,000	\$9,568,000	\$5,254,000

WHOLESALE PRICES—

	Latest Month	Preceding Month	Year Ago
All Commodities (other than farm and food)	112.7	112.6	114.9
Chemicals and Allied Products	104.0	104.2	108.5
Industrial Chemicals	114.6	114.7	120.4
Drugs and Pharmaceuticals	92.1	92.1	95.6
Fertilizer Materials	110.9	110.7	107.2
Oils and Fats	47.5	49.8	70.4

producer reports September sales higher than August, August higher than July.

The Cuban molasses situation, however, may result in lower alcohol prices. Some molasses has moved for as little as 7¢/gallon (f.o.b. Cuba); chances are the price will go lower.

It may be at least 30 days before the lower cost material shows up in a less-than-55¢/gallon alcohol.

There's no danger of falling hydrofluoric acid prices, however. The item is being labelled "tight" in some quarters. One big reason for the shortness: increasing amounts going to U. S. atomic energy programs.

This does not mean all consumers are having difficulties, merely that hydrofluoric is not quite as ample as customers would like.

Though reawakening activity in rayon mills has stepped up demand for carbon bisulfide, there is little reason to expect any critical shortage. Practically all requirements are being filled via long-term contracts.

Ceiling price for the bisulfide (currently 4.9¢/pound, T.C.) may be raised if pleas of some producers are heeded by OPS.

The entire synthetic textile picture last week was shown—statistically—to have brightened considerably. According to the Textile Economics Bureau these salient developments highlight the present market:

- Total shipments of rayon and acetate yarn by U. S. producers in August was the second highest monthly total on record—114,400,000 pounds.
- Stocks of both yarns held by producers are down to 72,700,000 pounds compared with 120,000,000 pounds last April.
- Shipments of acetate have outstripped production in each of the last eight months.

Some dyestuff manufacturers are also hailing the general improvement in textiles. Though business is far from the post-Korean peak, it is "much better" than it was last year at this time—and getting better.

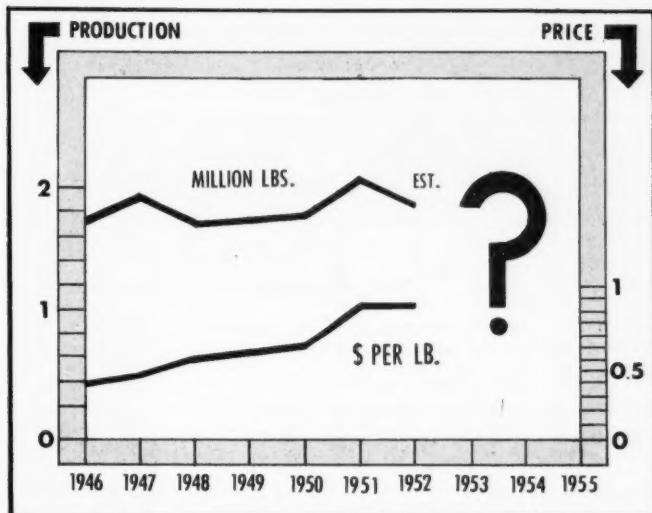
While vat and chrome color demands for defense have slackened, civilian requirements have more than taken up the slack. Busier woolen worsted skein dyers indicate the same welcome pickup noticed this week in most chemical process industries.

SELECTED CHEMICAL MARKET PRICE CHANGES—Week Ending September 20, 1952

UP	Change	New Price	UP	Change	New Price
Carnauba Wax, No. 1 Yellow, ton lots	\$.01	\$1.27	Quicksilver, 76 lb. flasks	\$.50	\$193.00
DOWN					
Castor Oil, dehydrated, tanks	.005	.316	Blackstrap Molasses, seed grade, tanks, N. Y., gals.	.015	.15

All prices per pound unless quantity is stated.

MARKETS . . .



PYRIDINE PRODUCTION? PRICE?: Questions for the future.

Pyridine Perspective

Consumers of 2 degree pyridine will find nothing to cheer about in the supply-demand picture—at least for the next few months.

But by early 1953 first big-scale commercial production of synthetic pyridine will begin to hit the market.

Know where to get a carload or two of 2 degree pyridine? If you do you can make yourself a fortune. That's the consensus among consumers, producers and, especially, resellers. For today pyridine demand considerably outstrips supply. In fact in the chemical market place pyridine is described as "tighter than an Indian drumhead."

A glance at the pyridine price picture highlights the past, present and near-future shortage of the coal tar derivative. The price has risen steadily from 40¢/pound in 1943 to its present level of \$1.05. Only a ceiling has kept the "official" quotation so pegged. On the other hand there are any number of resellers who would sell you a pound of 2 degree pyridine for something like \$2.10—if they could get any to sell.

This is no new development and chances are the situation will not ease in the next few months. In a recent survey of principal pyridine users the Government came up with these two hard facts:

- Consumers' requirements from July to year's-end will have reached about 1,100,000 pounds.
- Production of 2 degree pyridine

will amount to only about 675,000 pounds during the same period.

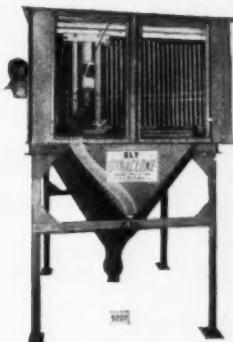
Seven on a Level: While crude pyridine bases are recovered at many coke plants, practically all refined pyridine is turned out by seven companies: U.S. Steel, Pittsburgh Coke & Chemical, Barrett, Koppers, Reilly Tar & Chemical, Jones & Laughlin Steel, Donner-Hanna Coke.

These U.S. producers last year accounted for some 2,100,000 pounds. Production in the first few months of 1952 was averaging slightly higher than last year's rate when the steel strike shutdown of coke ovens resulted in a substantial loss of production. NPA experts estimate the loss as "more than 400,000 pounds."

Though this bite out of the potential pyridine supply did not initiate the scramble by consumers, it certainly did not ease an already tight situation. Sulfa drugs, vitamins and the anti-histamines, in rapid succession, have created a greater and greater demand for the 2 degree pyridine. The amount annually available from coal carbonization, however, industry-wise sources say, has just about reached its peak—approximately

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provides continuous and uniform suction



After extensive laboratory tests and observance of over 30 units in actual operation for the collection of a large variety of dust in various industries, the W. W. Sly Manufacturing Co. of Cleveland, Ohio, is now promoting the sale of a cloth type dust filter which offers a number of advantages, over existing units, such as: (1) constant uniform suction at the dust source, (2) no mechanical shaking, (3) continual cleaning of the filter bags, and (4) longer bag life.

The usual sheet metal case contains a number of cloth filter bags. A fan creates the suction which draws the dust-laden air into the case. The air passes through the filter bags which retain the dust.

In order to maintain peak efficiency, the dust must be removed from the filter cloth. Here's how it's done (patented): With the filter case under suction, a device which travels back and forth over the open ends of the filter bags, has a flexible hose leading to the outside of the filter case. The suction on the case will draw atmospheric air up into the traveling device and in reverse direction through the filter bag which happens to be opposite the device. This reverse flow of air removes the dust from that bag and lets it drop into the hopper under the filter case.

This new dust collector is called the SLY DYNACLONE. The principle of operation of this SLY DYNACLONE is described in Bulletin 101. Requests for this bulletin and information on application of this design should be addressed to

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M A R K E T S

2,000,000 pounds. In this the Government concurs, points out that production of refined pyridine will increase less than 1,000,000 pounds over the next 25 years.

Some of this additional material will come from a few new recovery installations; some, probably, from more efficient recovery systems. It's a cinch U.S. coke capacity will increase slightly in the next few years but greater use of low volatile coals for coking will tend to curtail the amount of recoverable coal chemicals—which in turn substantiates the view that pyridine-from-tar will not exceed the 2,000,000-pound-per-year-level.

Outlets Boom: DuPont's Zelan process for waterproofing is credited as opening the first big market for pyridine, long a small-use solvent and intermediate. Then along came the sulfa drugs, niacin or nicotinic acid, the antihistamines and the scramble was on in earnest.

Today an off-the-cuff percentage end-use pattern of 2 degree pyridine reads something like this:

End-Use	% Required
Vitamins (niacin, niacinamide)	20
Medicinals (antihistamines, sulfa pyridines)	16
Textiles (fabric waterproofing)	18
Solvents (dyes, chemical processing)	12-14
Rubber	10-15
Insecticides	5-10
Miscellaneous	8-10

Though current requirements for these outlets far exceed expected production, members (all producers) of the Refined Pyridine Industry Advisory Committee recently told NPA officials they had experienced no unusual pressure for shipment of pyridine as a result of the last steel strike. The committee also recommended that no allocation or limitation orders be adopted at this time, felt the present procedure of using directives and DO-ratings adequate.

The agency, however, has been subject to considerable "pressure" to secure pyridine for consumers. Para-

doxical as this may sound, there seems to be a logical explanation. In short, NPA apparently provides a sounding board for consumers' complaints. Some users, unsuccessful in their attempts to secure all the pyridine they need, have taken to by-passing producers, going directly to the government agency for relief.

Whether this practice has paid off is a moot question. But if NPA accepts another committee suggestion—to refer all such "complaints" to pyridine producers—it is more than likely consumers could get that run-around feeling.

Synthetic Steps In: Synthetic pyridine manufacture at this point seems to hold the only solution to the chronic shortage. A few companies like Carbide & Carbon, Phillips Chemical, Nepera Chemicals are placing their money on 2-methyl-5-ethyl pyridine (MEP) as a starting material for niacin manufacture, and in Phillips' case specifically as a source of 2-methyl-5-vinyl pyridine (MVP).

Many producers, too, have at one time or another, played around with the possibility of producing a completely synthetic pyridine; one that could be used interchangeably, in all uses, with "natural" pyridine, rather than for only specific end uses.

By this week one such producer, Reilly Tar & Chemical, has gone beyond the lab stage, is actually building a plant (Indianapolis) that will turn out, among other products, synthetic pyridine. The company tells CW it could produce a whopping 500,000 pounds of synthetic pyridine a year. Though the original completion target date (Jan., 1953) may be delayed two or three months, because of the recent steel shortage, Reilly Tar is already confidently approaching prospective customers.

The synthetic will sell for about \$1.50/pound. High by "natural" price standards, this price may not seem so bad when long-suffering pyridine consumers compare it with the tag on some foreign material (\$2.00/pound), and, of course, that dusky-market price—\$2.10.

Government Needs

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October 3	B 54393 B	216000 lbs	Pigment dry spec. TT Z415 amend 1
October 3	B 54394 B	180000 lbs	Pigment red lead spec. TT R 191A amend 2
General Stores Supply Office, 700 Robbins Avenue, Philadelphia, Pennsylvania			
September 22	3-1140B	Est. Qty.	Gas chlorine comm grade low pressure liquefied various sized government or contractor owned cylinders
September 22	3-1141B	Est. Qty.	Gas chlorine comm grade low pressure liquefied various sized government or contractor owned cylinders
September 25	3-1145B	Est. Qty.	Gas ammonia low pressure liquefied Gov't owned cylinders var sizes ammonia in accord fed. spec. O A 445 am 1

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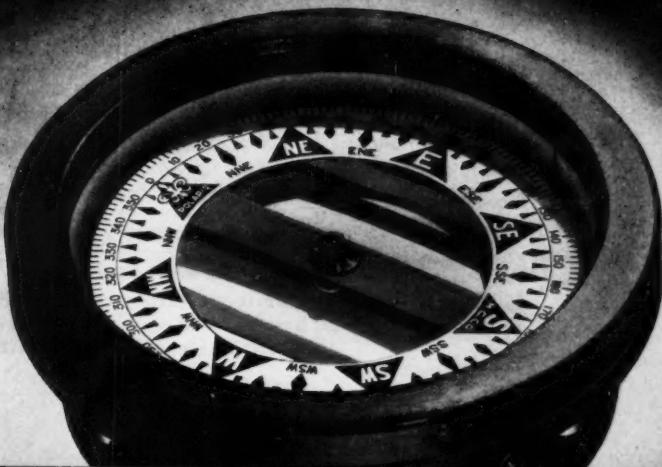


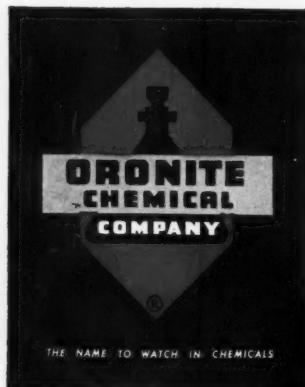
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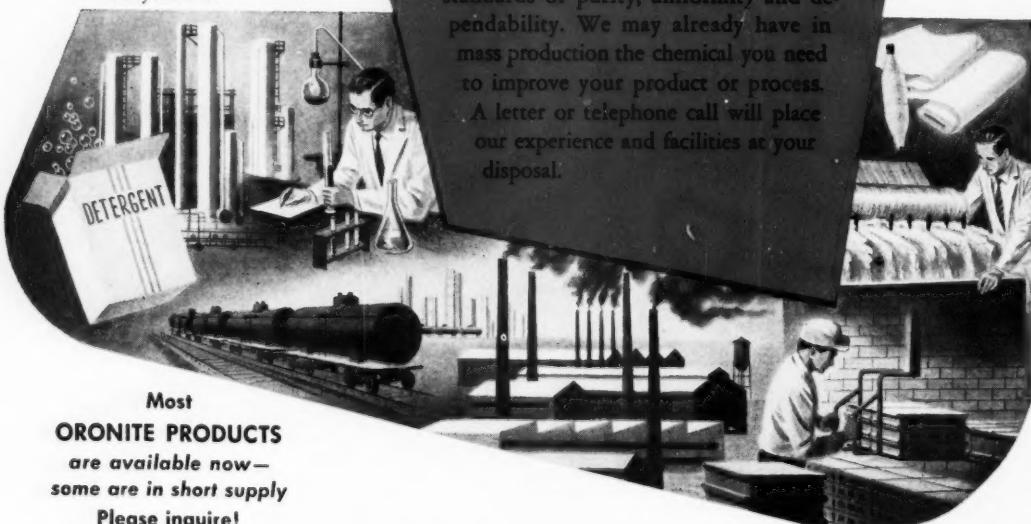
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2341

RESEARCH . . .



PFIZER'S NICKELL: For antibiotics, a promising new chapter.

Familiar Story, New Cast

Stimulation of plant growth with antibiotics is reported by researcher Louis G. Nickell of Chas. Pfizer & Co.

A new agricultural market for antibiotics is the discovery's hopeful long-range implication.

But the work, for now at least, is primarily of research significance; early commercialization is not likely.

Animal or vegetable, the antibiotics make no distinction in doling out their varied benefits. This novel state of affairs was brought into clear focus, this past week, by the results of Pfizer researcher Louis Nickell's recent plant nutrition studies.

Nickell, head of Pfizer's phytochemistry laboratory, told researchers gathered at Cornell for the annual meeting of the American Institute of Biological Sciences that minute quantities of several antibiotics stimulate plant growth—even when administered in concentrations as low as one part per million parts water.

Full significance of this discovery is not yet clear. But its implications to antibiotics producers are obvious. If further research does indeed estab-

lish the feasibility of using antibiotics as crop growth boosters, manufacturers of the wonder drugs would have a tidy new companion market to augment their feed supplement sales.

Of course this happy prospect is still strictly in the realm of conjecture. But Nickell's work, which dates back four years, leaves little doubt that there's cause for hope.

Preliminary experiments, conducted in 1948, indicated that antibiotics in low concentrations could stimulate the growth (*in vitro*) of virus tumor tissue from the sorrel plant. At the time, no special significance was attached to this discovery and the work was not followed up.

But the advent of antibiotics in animal nutrition, a now-familiar success

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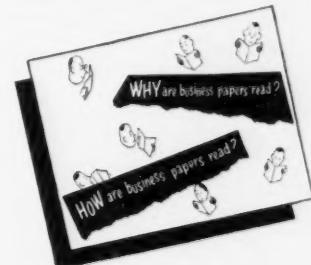
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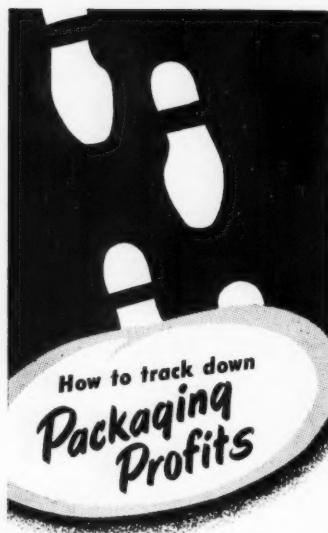
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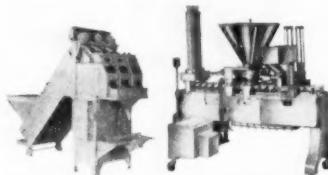
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RESEARCH

story, sparked interest anew. In Nickell's words: "The striking results obtained within the last few years in the stimulation of animal growth as well as the controversy over the mechanism of action of this stimulation have served as an impetus to continue these [plant] studies."

Accordingly, three types of experiments—tissue culture, seed germination, and soil growth—were initiated. In the first of these experiments, virus tumor tissue from the sorrel plant (grown in the absence of vitamins for two weeks prior to the tests) was treated with solutions of five different antibiotics. Results, at the close of a three-week growing period, showed definite growth stimulation at low antibiotic concentrations. At five ppm, the order of effectiveness of the five substances tested was: bacitracin; terramycin; thiolutin; streptomycin; penicillin.

Seed germination studies (with both monocots and dicots) indicate that stimulation does occur—and at the same levels observed for tissue cultures. Terramycin, streptomycin, penicillin and thiolutin proved effective in boosting the proportion of germinations obtained from batches of monocot and dicot seeds.

Striking Clue: Nickell's soil growth experiments, however, give the most striking clue to the antibiotics' newly realized agricultural capabilities. In one test, 49 sweet corn seeds were planted in each of two greenhouse flats. Growing conditions for the two groups were identical in all respects but one: The control group received ordinary tap water; the experimental group got a 5 ppm solution of terramycin.

After four weeks, the corn was uprooted, weighed and measured. Total weight of above-ground plant tissue from the control flat was 23 grams; total weight from the treated flat, 45 grams. To determine whether water retention played an appreciable role in this weight increase, the two lots of corn were dried to constant weight at 105°C. The two-to-one weight ratio, however, remained relatively unchanged. Nickell's conclusion: The gains are true growth responses, not merely increased water absorption.

Corn was not the only plant that proved amenable to the growth-boosting benefits of antibiotics in these tests. A favorable response also was obtained with sorrel. And radishes grown in soil containing procaine or diamine penicillin averaged from two to three times the size of those in an untreated control group.

Aside from its practical potentialities, Nickell's work promises to shed new light on the fundamental mechanism of growth stimulation by antibiotics. Some of his results appear to stand in contradiction of the popular germicide theory. Applied to animals, this line of reasoning postulates that antibiotics kill off some intestinal bacteria, promote more efficient utilization of food. Nickell, however, obtained growth stimulation with plant tissue cultures which were free of microorganisms. And positive results were also obtained in speeding the germination of sterile seeds with antibiotics.

Vitamin Bypassed: Another interesting sidelight was the discovery that the sorrel plant, which normally requires thiamine (vitamin B₁) for growth, was stimulated by antibiotics even when it was deprived of the vitamin.

In the wake of the animal nutrition work of the past few years, and in view of today's substantial market for antibiotics in livestock feed supplements, the growth-boosting attributes of the wonder drugs are by now a familiar story. Only research can decide the latest chapter's meaning for industry.

New Hypertension Tack

A new concept in the control of high blood pressure has been introduced by D. W. Wooley of Rockefeller Institute for Medical Research. And on the strength of Institute research, it appears that a new family of pressure-reducing drugs may be in the offing.

Unlike previous approaches to the problem which have yielded nitrite compounds to relax the muscles of the blood vessels and veratrum alkaloids which slow the heart-beat, the Wooley concept hinges on the development of chemical agents to counter the action of serotonin—a natural blood vessel constrictor found in human serum.

The idea is to find—on the basis of structural similarity—compounds which are antagonistic to serotonin, much in the same way antihistamines have been developed to counteract histamine.

Results obtained thus far are encouraging, point up substituted indoles as a promising group for further study. Tests show that intravenous administration of 2,3-dimethyl-5-aminooindole prevents the rise of blood pressure after an injection of serotonin [chemically 5-hydroxy-3-(β-aminoethyl) indole]. The corresponding 5-nitroindoles proved effective when taken orally.





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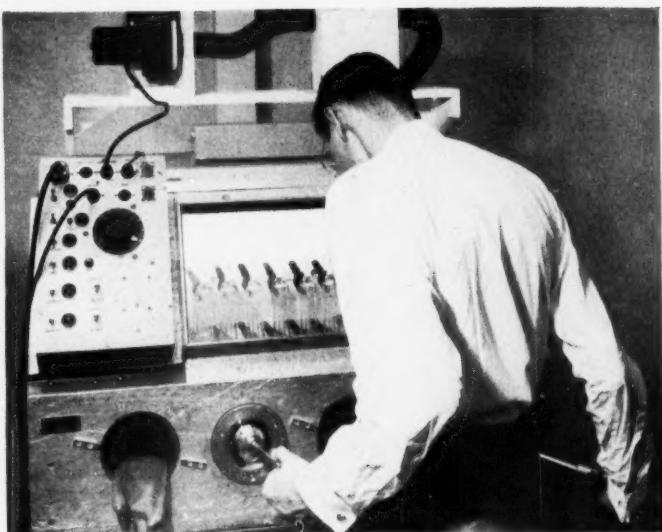
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RESEARCH



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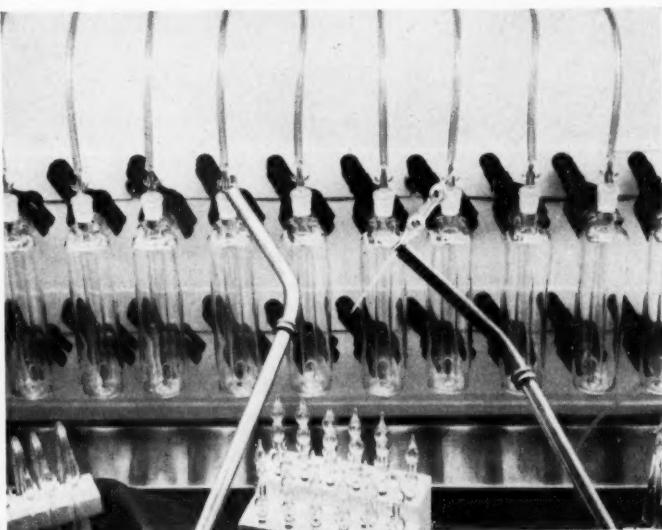
Hot Lab on Wheels

Out on the Pacific Coast, a young company is capitalizing on an imaginative approach to the equipment problems of radiochemical research. Lermac, Inc. by name, the Berkeley, Calif., firm has just come out with a movable laboratory unit for a variety of operations involving radioactive isotopes.

Virtually a complete "hot" laboratory on wheels, the Lermac brainchild

should draw more than a passing glance from an increasingly isotopic-conscious industrial research fraternity. Reason: It can cope with many radiochemical manipulations; and, by dint of its movability, often can eliminate the need for special radioisotope laboratories.

The first of these appealing attributes—operational flexibility—stems directly from the unitized design of the



. . . inside the lead-shielded ion-exchange equipment box.

apparatus. Its basic feature is a three-sided lead shield with one or more lead-glass viewing windows. Mounted on a dolly, the shield is designed to permit easy insertion and interchanging of various custom-built equipment boxes behind its protective walls. Glove-ports, built into the shield, enable operators to manipulate the boxed equipment units.

The heart of each miniature "hot" lab is tailored to the needs of its prospective user. Lermac starts with a flow sheet of a projected experiment broken down into operational steps. Taking into consideration the types of operations required, along with such other pertinent details as reagents and liquid volumes to be handled, the company selects mechanical manipulators from its standard designs and details an apparatus layout for a boxed unit. Any special equipment is then developed and the entire set-up assembled and tested.

Lermac recently delivered its first model to Sloan Kettering Institute, where it will be used to further the Institute's cancer research program. The Sloan-Kettering job consists of a lead shield, an inch thick (41 inches high, 21 wide and 24 deep) with a single window and two equipment boxes; a dissolver box and a column box.

Four-Way Performance: The dissolver unit is constructed for remote control performance of four operations: opening an irradiated quartz capsule; adding reagents; heating sample and reagents in a constant temperature bath; and transferring the dissolved sample to a shielded area outside the box. Manipulation is done with tongs that slide along lead-filled balls in lead sockets.

Equipped with the same type of manipulators as the dissolver unit, the column box is fitted with twelve ion-exchange columns for isotope separation. Columns may be loaded with radioactive solution, flushed with hydrochloric acid; a special syringe pump provides a steady flow of acid. To maintain constant temperature of 90 C, each column has a jacket through which trichloroethylene vapor is circulated from a boiler mounted on the back of the box.

Both boxes have built-in air purifying systems. An electrical panel on the external lead shield operates the blower, syringe pump motors, boiler and fluorescent lights. Total cost of the entire set-up was \$8,200—hardly cheap, but within the means of most research budgets. The California company is now working on another model for an AEC installation.

Lermac, Inc. was launched in Janu-



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Dryers, 2 Stainless Drums; 5'x10', First Machinery Corp., 157 Hudson St., N.Y. 13, N.Y.

Filter Press, 18" x 18", Sperry, Iron, P & F, 11 chambers (20). Consolidated Products, 18 Park Row, N.Y. 38, N.Y. Barclay 7-0600.

Filter Press, 30"x30", Iron, Sperry, steam heated, 30 chambers. Consolidated Products, 18 Park Row, N.Y. 38, N.Y. Barclay 7-0600.

Filter Press, 30" x 30", Aluminum, 45 Chambers, Consolidated Products, 18 Park Row, N.Y. 38.

Filter Press, 42" x 42", Iron, Shriver, 18, 27, 36, 54 chambers (12). Consolidated Products, 18 Park Row, N.Y. 38.

Filters, all sizes and types. Perry Equipment, 1415 N. 6th St., Phila. 22, Pa.

Granulator, Allis Chalmers, Ball, 4'6"x7', Iron lined. Used 100 hours. Consolidated Products, 18 Park Row, New York 38, N.Y. 7-0600.

Kettles, 5/S, 300 gal. and 200 gal., 100#, W. P. Consolidated Products, 18 Park Row, N.Y. 38.

Labeler, World Model CH, press type, very good cond. Process Industries, 305 Powell St., Brooklyn 12, N.Y.

Mill New 6x12; Johnson Joints, Complete. Eagle Industries, 108 Washington St., NYC.

Mills, Raymond ±5047 & 5057, High Side Roller, (2). Consolidated Prods., 18 Park Row, N.Y. 38.

Mills, Traylor tube, 5x22', 5x20', 4'6"x18'6", 4x13', stone lined, pebble charge (4). Consolidated Products, 18 Park Row, N.Y. 38, N.Y.

Mixer Lab 3 qt. cap. 1/4 HP, Readco. Eagle Industries, 108 Washington St., NYC.

Mixers, 700 gal. Turbo, Simplex, jktd. (2). Consolidated Products, 18 Park Row, N.Y. 38.

Mixers, horiz. ribbon, 14x7'6"x6', jktd. 450 cu. ft. (2). Consolid'd. Prod., 18 Park Row, N.Y. 38.

Pebble Mills; 8x8', Porcelain lined. First Machinery Corp., 157 Hudson St., N.Y. 13, N.Y.

Pebble Mills 10 gal. to 800 gal., porcelain lined. 20. Consolidated Products, 18 Park Row, N.Y. 38.

Reactor-type 347 55 30 gal. with condenser. Equipment Clearing House, Inc., 289 10th St., Brooklyn 15.

Reactors, Pfaudler Jktd. 400 Ga. First Machinery Corp., N.Y. 13, N.Y.

Tablet Press, No. 51/2, Colton 3" maximum. Consolidated Products, 18 Park Row, N.Y. 38.

Tanks, Alum, Pressure—330 and 480 gal. Perry Equipment, 1415 N. 6th St., Phila. 22, Pa.

Tanks, 5/S, from 30 gal. to 5700 Gal. Perry Equipment Corp., 1415 N. 6th St., Phila. 22, Pa.

process industries

Tanks, 2 10000 gal. SS Storage, excel. Cond.
Eagle Industries, 108 Washington St., NYC.

Tanks, 55 Storage & Mixing, all capacities.
Process Industries, 305 Powell St., Brooklyn 12.

Tanks, 6500 gal. capacity, steel storage, recovered from dismantled tank cars, coiled & non-coiled. Marshall Railway Equipment Corp., 50 Church St., N.Y. 7, N.Y.

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BUSINESS OPPORTUNITIES

Sixty year old nationally known process equipment company interested in establishing process design subsidiary. Will consider purchase or affiliation with existing company or will form with right man. BO-5171, Chemical Week.

RESEARCH

ary of this year, opened for business in March. The company combines design and manufacture of special radiation equipment with production of standard items like Geiger tubes, vacuum glassware, etc. Lermac's crowning achievement—its hot lab on wheels—seems secure, however, as the principal object of the company's research attention.

Rare Entries: Two unsaturated angelictones are now available from Techniservice (Box 1226 G.P.O., New York, N.Y.), an organization which supplies hard-to-find compounds on request.

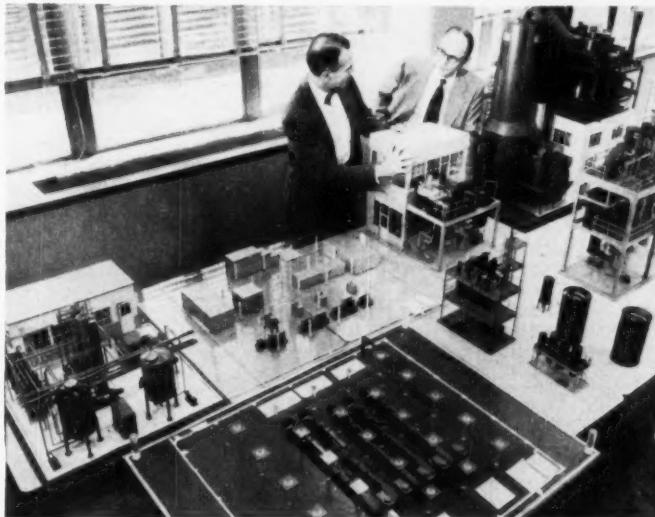
Biochem Aid: Standard Scientific Supply Corp. (New York, N.Y.) has just come out with Pro-Sol, a material, which the company states, fills a demand for a stable, sterile standard of protein or albumin content. The product is prepared from albumin, is put up in cap-sealed bottles. Uses: in biochemical laboratories for colorimetric, photometric and Kjeldahl procedures.

Fiber Plans: A new textile fiber labora-

tory is in the works for the Du Pont Co. Proposed site is a 160-acre tract near the Du Pont airport, Wilmington, Del.

Debut: A brand-new series of organic silicofluorides was recently unveiled by Davison Chemical Corp. (Baltimore, Md.). Six are now available for investigation. They are: methylamine silicofluoride; dibutylamine silicofluoride; ethylhexylamine silicofluoride; aniline silicofluoride; "rosin amine" silicofluoride; and morpholine silicofluoride. Potential uses are, for the most part, undeveloped.

TB Duo: A new anti-tuberculosis drug, claimed to be more effective than streptomycin, has been developed at Chemie Gruenthal experimental laboratory, Stollberg, Germany. The preparation is a combination of streptomycin and a penicillin salt, is marketed under the name Paratebin. According to reports out of Germany, Paratebin was successfully tested in clinics and by private physicians on more than 100 sufferers of the disease.



Models for Model Processes

DEVELOPMENT ENGINEERS take the first official look at scale-models of process equipment in Procter & Gamble's spanking new Miami Valley research laboratories. By the use of these miniatures (see also page 44), problems involving the most efficient flow of materials in a new process, the

adaptation of manufacturing units to a particular terrain and the placement of equipment for maximum safety can all be studied in detail. Located near Venice, O., P & G's new laboratories are designed for research on soaps, synthetic detergents, shortenings and certain toiletries.

BOOKLETS

Chemicals

Peroxygen Compounds

10-p. bulletin entitled "Surface Treatment of Metals with Peroxygen Compounds" discusses use of peroxide, per sulfates, and peracids to improve the adherence of finishes to metal surfaces and the appearance of finished articles by applying chemically produced surface films. Four general types of procedure are outlined and the actual or potential usefulness of peroxygen compounds as applied to each of these procedures is described in detail. Request bulletin No. 39, the Becco Sales Corp., Station B, Buffalo 7, N.Y.

Aromatic Amines

4-p. bulletin describes six aromatic amines: phenyl diethanolamine, phenyl ethyl ethanolamine, 2,5-diethoxyaniline, 2,5-dimethoxyaniline, meta-tolyl diethanolamine and ortho-tolyl propanolamine. The uses, reactivity, specifications, miscibility and other information concerning each amine are given. Tennessee Eastman Co., Kingsport, Tenn.

Equipment

Process Equipment

24-p. booklet describes equipment for the process industries, including centrifugal pumps, rotary kilns, log washers,

metal detectors, speed changers, and other equipment. Such chemical unit operations as fluid flow, air-gas handling, and materials handling are discussed from the equipment viewpoint. Request bulletin 25B6177G, Allis-Chalmers Mfg. Co., 1150 S. 70th Street, Milwaukee, Wis.

Tramrail system

4-p. folder illustrates newly developed hot metal handling system to move metal from the cupola to pouring floors. Outstanding features as well as advantages are discussed. Forker Corp., 2044 Randolph Road, Cleveland 6, O.

Super-Agitor

2-p. data sheet entitled "How Conditioning Efficiency Increases Flotation Recovery" lists advantages of Super-Agitor and Conditioner. Drawings and specifications are included. Denver Equipment Co., 1400 Seventeenth Street, Denver 17, Colo.

Gear Materials

20-p. booklet entitled "Modern Trends in Nickel, Steel and Cast Iron Gear Materials" covers carburizing and direct hardening nickel alloy steels and low and medium silicon nickel gray cast irons. Machinability, effects of various types of heat treatment, and characteristics of a precipitation hardening nickel steel are

discussed. Complete with illustrations and charts. International Nickel, Dept. EZ, New York 5, N.Y.

Tubing Steels

2-p. technical data card describes two stainless tubing steels, including information on corrosion resistance, mechanical properties, forging, machining, welding, heat treatment and physical properties. Request bulletin TDC 143, Tubular Products Division, Babcock and Wilcox Co., Beaver Falls, Pa.

Paint Systems

8-p. bulletin describes latest paint systems for the protection of hydraulic structures and contains corrosion inhibitive primers and finish paints formulated for exposure to moist and chemically contaminated atmospheric environments and for intermittent and continuous immersion in fresh water. Lead Industries Assn., 420 Lexington Ave., New York 17, N.Y.

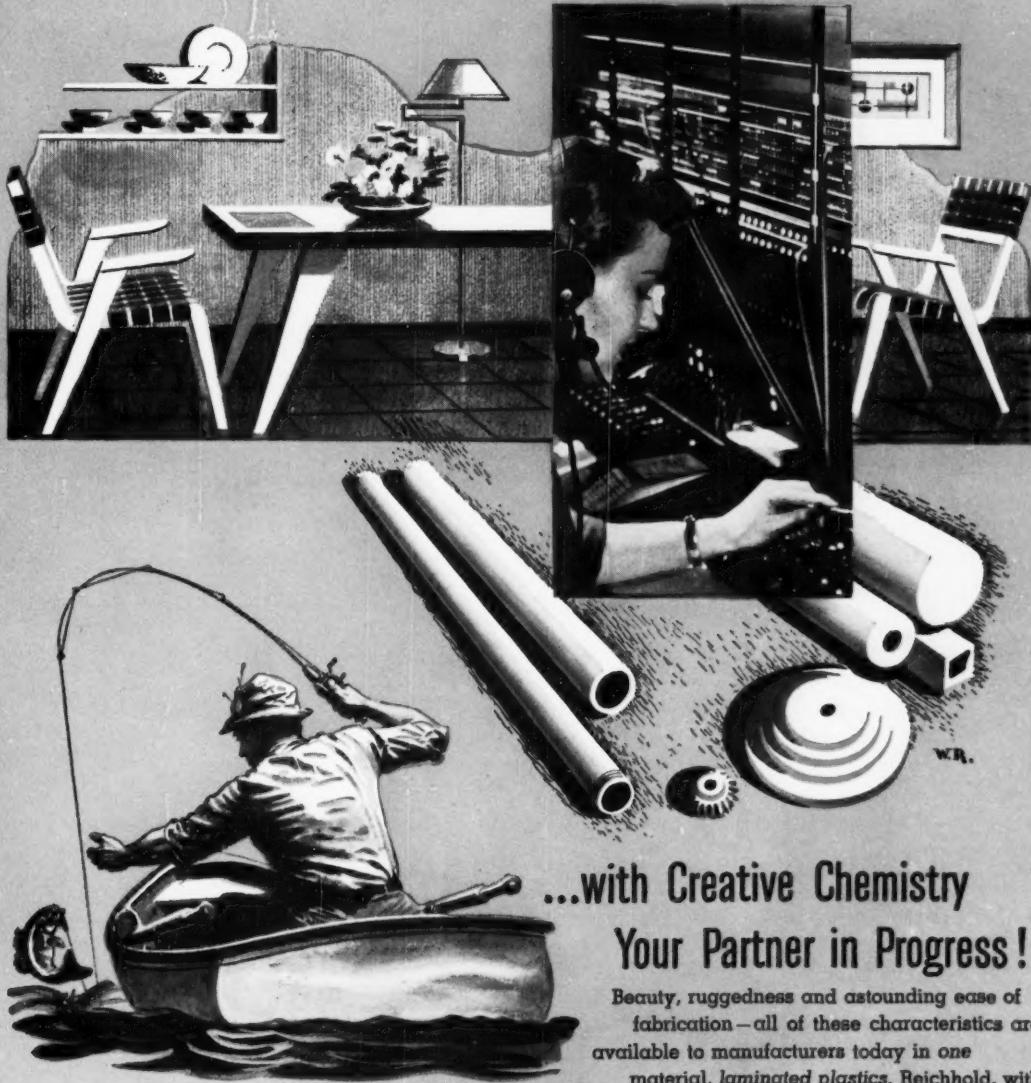
Gas Odorization

8-p. bulletin contains revised method for odorization of liquid petroleum gas. Odor is added to the vapor phase of the fuel, resulting in uniform odorization. Illustrations and charts are included. Request bulletin G6 entitled "A New Method for Odorization of LPG," J. B. Calva & Co., 502 Kasota Building, Minneapolis, Minn.

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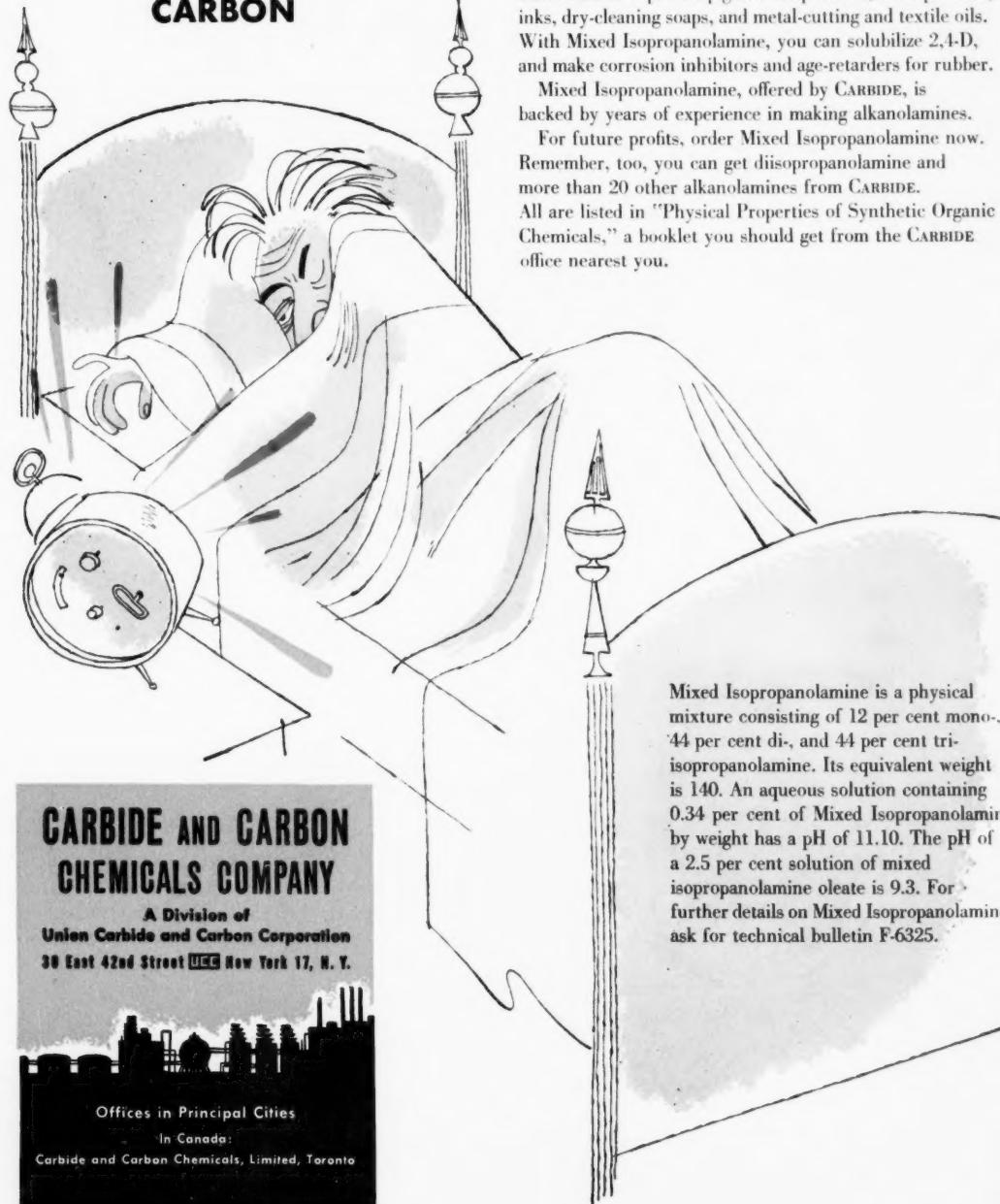
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